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I.—*A List of the Butterflies of Hongkong in Southern China, and the food-plants of the larvæ.*—By LIONEL DE NICÉVILLE, F.E.S., C.M.Z.S., &c.

[Received 1st September; Read 6th November, 1901.]

The Butterflies of Southern China appear to have been largely neglected by modern Entomologists, though a considerable number of the larger species were known to the ancients. For instance, Linnæus and Fabricius described many species from "China," many of these and a few others were figured by Drury, Cramer, Herbst and Donovan at the end of the eighteenth century. In 1861 Wallengren described two new species and mentioned a third obtained during the voyage of the frigate "Eugénie" which touched at Hongkong; in 1862 Felder described four species and mentioned a fifth captured by the officers of the frigate "Novara" which visited the island; in 1886 Röber described two new species of *Lycænidæ* from Hongkong; while in 1899 Kirby recorded five species from thence. The first list of the butterflies known to occur in Hongkong was compiled by Messrs. Sydney B. J. Skertchly and James J. Walker, and is published in a little book entitled "Our Island. A Naturalist's Description of Hongkong" by Mr. Sydney B. J. Skertchly, F.G.S., M.A.I. (1893). This list embraces 116 species. Of these I have omitted from the present list *Ideopsis daos*, Boisduval, *Amathusia phidippus*, Doubleday, and *Pandita*

sp., all of which are species found in the Malay Peninsula and are not likely to occur in Hongkong. But a much more important list is that by Mr. James J. Walker, R.N., F.L.S., entitled "A Preliminary List of the Butterflies of Hongkong; based on Observations and Captures made during the Winter and Spring months of 1892 and 1893," published in the Transactions of the Entomological Society of London for 1895, pp. 433-477. In this list 125 species are noted. In the present list I have omitted *Ideopsis daos* and *Amathusia phidippus* for the reason noted above. Moreover, Mr. Walker records what I consider to be five species under two names each, these being 8. *Euploea* (*Isamia*) *superba*, Herbst, and 9. *Euploea* (*Trepsichrois*) *midamus*, Linnæus. 16. *Ypthima hübnéri*, Kirby, and 17. *Ypthima argus*, Butler. 78. *Catopsilia catilla*, Cramer, and 79. *Catopsilia crocale*, Cramer. 80. *Terias hecabe*, Linnæus, and 81. *Terias mandarina*, de l'Orza. 85. *Pieris* (*Huphina*) *neresa*, Fabricius, and 86. *Pieris* (*Huphina*) *pallida*, Swinhoe. This reduces Walker's list to 118 species. In the present list 140 species are given, of which 22 marked with an asterisk (\*) have not been seen by me. The gain in number of species observed in Hongkong in the six years since Walker wrote is therefore twenty-two. Walker also mentions a specimen of *Hestia lynceus*, Drury, which he had seen "taken more than twenty years ago on the wharf at Kowloon—an obvious importation." This species is omitted from his list and also the present one.

My friend, Mr. E. F. Skertchly, son of Mr. Sydney B. J. Skertchly in collaboration with Mr. Kershaw, proposes to bring out an elaborate work illustrated with coloured plates on the *Rhopalocera* of Hongkong. A specimen of these plates I have seen chromo-lithographed in Japan, and it is an excellent production. To help in the good work of publishing this volume I have written this paper, as entomological books are scarce in Hongkong, and my assistance has been asked as regards identification of the various species and the necessary synonymy. My share of this work appears in the list below; the particulars given of the food-plants of the same are closely-allied species occurring in India and elsewhere is a help to the discovery of the transformations of the various species of butterflies in Hongkong itself. A knowledge of the food-plant of any particular butterfly is more than half the battle in discovering its larva. I may note that Messrs. Skertchly and Kershaw have for the last few years sent me consignments from time to time of Hongkong butterflies for identification; moreover, I have a superficial knowledge of them from having twice visited the colony for short periods. The butterflies of Hongkong are on the whole remarkably similar to those of India, not a single genus being found in the

island or on the adjoining mainland, which does not occur in India, while about ninety per cent. of the species are identical or extremely closely allied, the "local variation" being remarkably slight. This is perhaps not so much to be wondered at, as there is continuous land connection between India and Hongkong save the narrow strait about a mile wide which separates Kowloon or the mainland from the island. Moreover, Hongkong is on the same parallel of latitude as Calcutta, and has a very similar climate, though it is on the whole slightly cooler. The most interesting butterfly mentioned is, I think, *Danaïs* (*Anosia*) *erippus menippe*, Hübner, the well-known "Wanderer," a pair of which was taken in Hongkong in August last. This butterfly continues to extend its range, but has not as far as I know been yet obtained on the mainland of Asia, though it has spread from its original home in North America to Europe on the east, and right round through the Pacific Islands, Australia, and the Malayan Archipelago to the Straits of Malacca.\*

## Family NYMPHALIDÆ.

### Sub-family DANAINÆ.

#### 1. *DANAIS* (*Radena*), *SIMILIS*, Linnæus.

*Papilio similis*, Linnæus, Mus. Ulr., p. 299, n. 117 (1764); *Radena similis*, Moore, Proc. Zool. Soc. Lond., 1883, p. 223, n. 1; Lep. Ind., vol. i, p. 28 (1890); Fruhstorfer, Berl. Ent. Zeitsch., vol. xlv, p. 79 (1899); *Danaïs* (*Radena*) *similis*, Walker, Trans. Ent. Soc. Lond., p. 445, n. 5; *Danaïs similis*, var. *chinensis*, Felder, Verh. zool.-bot. Gesellsch. Wien, vol. xii, n. 148 (1862); *Papilio aventina*, Cramer, Pap. Ex., vol. i, p. 92, pl. lix, fig. F (1775).

The larva of the subgenus *Radena* has two pairs only of fleshy filaments. Though species of *Radena* occur in Ceylon, Burma and the Nicobar Isles within Indian limits, the larva and its food-plant has escaped detection.

#### 2. *DANAIS* (*Tirumala*) *LIMNIACE*, Cramer.

*Papilio limniace*, Cramer, Pap. Ex., vol. i, p. 92, pl. lix, figs. D, E, *male* (1775); *Tirumala limniace*, Moore, Proc. Zool. Soc. Lond., 1883, p. 230, n. 2; Lep. Ind., vol. i, p. 33 (1890); Fruhstorfer, Berl. Ent. Zeitsch., vol. xlv, p. 115; *Danaïs* (*Tirumala*) *limniace*, Walker, Trans. Ent. Soc. Lond., 1895, p. 445, n. 3.

The larva of *Tirumala*, like that of *Radena*, has two pairs only of fleshy filaments. It has been recorded in India to feed on many plants of the Natural Order *Asclepiadæ*, such as *Calotropis*, *Asclepias*, *Marsdenia*, *Dregea* and *Hoya*.

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\* Vide de Nicéville, Journal A. S. B., vol. lxiv, pt. 2, pp. 366-367 (1895).

3. DANAIS (*Tirumala*) SEPTENTRIONIS, Butler.

*Danais septentrionis*, Butler, Ent. Month. Mag., vol. xi, p. 163 (1874).

New to the Hongkong list; I have an undoubted female from there captured in March. The food-plant of the larva has never been discovered.

4. DANAIS (*Anosia*) ERIPPUS MENIPPE, Hübner.

*Papilio erippus* Cramer, Pap. Ex., vol. i, p. 4, pl. iii, figs. A, B, *male* (1775); *Anosia menippe*, Hübner, Verz. bek. Schmett., p. 16, n. 86 (1816); *Papilio plexippus* Cramer (*nec* Linnæus), Pap. Ex., vol. iii, p. 24, pl. ccvi, figs. E, F, *female* (1779); Herbst, Pap., vol. vii, p. 19, n. 8, pl. clvi, figs. 1, 2, *male* (1794).

A pair of this species was taken at Hongkong on the 4th August, 1901. The larva feeds on plants of the Natural Order *Asclepiadææ*.

5. DANAIS (*Limnas*) CHRYSIPPUS, Linnæus.

*Papilio chrysippus*, Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 471, n. 81 (1758); *Limnas chrysippus*, Moore, Proc. Zool. Soc. Lond., 1883, p. 237, n. 1; *Danais* (*Limnas*) *chrysippus*, Walker, Trans. Ent. Soc. Lond., 1895, p. 446, n. 7; *Limnas bowringi*, Moore, Proc. Zool. Soc. Lond., 1883, p. 239, n. 6; Fruhstorfer, Stet. Ent. Zeit., vol. lix, p. 412 (1898); *Limnas bowringii* [sic], Moore, Lep. Ind., vol. 1, p. 44 (1890).

Dr. F. Moore in 1893 recorded *L. chrysippus* from South China, but described *L. bowringi* as a new species from Hongkong, which also is in South China. In 1890, he says that it is "doubtfully of racial value." The larva of *Limnas* has three pairs of fleshy filaments; in Hongkong it has been reported to feed on *Asclepias curassavica*, Linn., and in India it feeds on plants of the Natural Order *Asclepiadææ*, such as *Calotropis* and *Asclepias*.

6. DANAIS (*Salatura*) PLEXIPPUS, Linnæus.

*Papilio plexippus*, Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 471, n. 80 (1758); *Papilio genutia*, Cramer, Pap. Ex., vol. iii, p. 23, pl. ccvi, figs. C, D, *male* (1779); *Salatura genutia*, Moore, Proc. Zool. Soc. Lond., 1883, p. 240, n. 1; Lep. Ind., vol. i, p. 48 (1890); *Danais* (*Salatura*) *genutia*, Walker, Trans. Ent. Soc. Lond., 1895, p. 445, n. 6.

The larva of *Salatura* has three pairs of fleshy filaments, and in India feeds on plants of the Natural Order *Asclepiadææ*, such as *Cynanchum*, *Ceropegea* and *Passularia*, in Ceylon on *Raphis*, *Ceropegea* and *Raphanus*.

7. \* DANAIS (*Parantica*) MELANOIDES, Moore.

*Parantica melanoides*, Moore, Proc. Zool. Soc. Lond., 1883, p. 847, n. 1; *Danais* (*Parantica*) *melanoides*, Walker, Tran Ent. Soc. Lond., 1895, p. 445, n. 4.



The larva of *Parantica* has two pairs only of fleshy filaments. The larva has never been discovered, but that of the allied species, *P. aglea*, Cramer, has been recorded to feed on plants of the natural order *Asclepiadææ*, such as *Cryptolepis*, *Calotropis*, *Tylophora*, in South India and Ceylon.

#### 8. DANAIS (*Caduga*) SITA, Kollar.

*Danais sita*, Kollar, Hugel's Kaschmir, vol. iv, pt. 5, p. 424, n. 1, pl. vi, figs. 1, 2, male (1844); *Danais (Caduga) sita* Mackinnon and de Nicéville, Journ. Bomb. Nat. Hist. Soc., vol. xi, p. 213, n. 6, pl. U, figs. 1a, 1b, larva; 1c, 1d, pupa (1897); *Danais (Caduga) tytia*, Walker, Trans. Ent. Soc. Lond., 1895, p. 444, n. 2.

The larva of *Caduga* has two pairs only of fleshy filaments, and feeds in India on *Marsdenia*, natural order *Asclepiadææ*. Hongkong specimens of *D. sita* agree absolutely with Indian ones.

#### 9. EUPLÆA (*Crastia*) GODARTII, Lucas.

*Euplæa godartii*, Lucas, Rev. et Mag. Zool., second series, vol. v, p. 319 (1853); *Euplæa (Crastia) godarti* (sic), Walker, Trans. Ent. Soc. Lond., 1895, p. 447, n. 10.

The larva of *Crastia* has four pairs of fleshy filaments. Major (now Colonel) C. H. E. Adamson, C.I.E., in "Notes on the *Danainæ* of Burmah," p. 12 (1889), records that he has "bred *E. godartii* from caterpillars found feeding on orange trees," *Citrus* sp., natural order *Rutaceæ*. More probable plants would, I think, be species of *Holarrhena*, *Nerium* and *Ichnocarpus* of the natural order *Apocynaceæ*, or *Streblus* and *Ficus* of the *Urticaceæ*.

#### 10. EUPLÆA (*Crastia*) KINBERGI, Wallengren.

*Euplæa kinbergi*, Wallengren, Wien, Ent. Monatsb., vol. iv, p. 35, n. 8 (1860); Kongl. Svensk. Fregatten Eugenies Resa, Zoologi, pt. v, p. 352, n. 4 (1861); *Tronga kinbergi*, Moore, Proc. Zool. Soc. Lond., 1883, p. 269, n. 12; *Crastia kinbergi*, de Nicéville, Journ. A. S. B., vol. lxx, pt. 2, pp. 20, 22 (1901), *Euplæa (Crastia) kinbergi*, de Nicéville, Journ. Bomb. Nat. Hist. Soc., vol. xiii, p. , n. , pl. , fig. , female; *Euplæa lorquini*, Felder, Reise Novara, Lep., vol. ii, p. 340, n. 472 (1865); *Crastia lorquini* (sic), Moore, Lep. Ind., vol. i, page 91 (1890); *Euplæa felderi*, Butler, Proc. Zool. Soc. Lond., 1866, p. 275, n. 20; *Crastia felderi*, Moore, Lep. Ind., vol. i, p. 91 (1890); *Euplæa (Crastia) frauenfeldi* (sic), Walker (nec) Felder, Trans. Ent. Soc. Lond., 1895, p. 447, n. 11; *Crastia frauenfeldii*, Moore, Lep. Ind., vol. i, p. 87, pl. xxviii, figs. 1, 1a, male (1890).

This very variable and common butterfly is restricted to Southern China, and has been bred on *Strophanthus divergens*, Grah.—natural order *Apocynaceæ*. The larva will probably be found to feed on *Nerium*, natural order *Apocynaceæ*, or on *Ficus*, natural order *Urticaceæ*.

11. *EUPLOEA* (*Isamia*) *MIDAMUS*, Linnaeus.

*Papilio midamus*, Linnaeus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 470, n. 75 (1758); *Isamia midamus*, Moore, Proc. Zool. Soc. Lond., 1883, p. 312, n. 5, pl. xxxii, fig. 5, male; Lep. Ind., vol. i, p. 132 (1891); *Euploea* (*Trepsichrois* [sic!]) *midamus*, Walker, Trans. Ent. Soc. Lond., 1895, p. 446, n. 9; *Papilio superbus*, Herbst, Pap., vol. vi, p. 14, n. 3, pl. cxix, fig. 3, female; pl. cxx, figs. 1, 2, male (1793)\*; *Euploea superba*, Felder, Verh. zool.-bot. Gesellsch. Wien, vol. xii, p. 488, n. 147 (1862); *Isamia superba* [sic], Moore, Proc. Zool. Soc. Lond., 1883, p. 311, n. 3; Lep. Ind., Vol. i. p. 132 (1891); Kirby in Hübner's lx. Schmett., new edition, Vol. 1, p. 4, pl. xxiv, figs. 3, 4, female (*Limnas Mutabilis Midamus* [sic] on plate) (1894); *Euploea* (*Isamia*) *superba* [sic], Walker, Trans. Ent. Soc. Lond., 1895, p. 446, n. 8; *Danaüs alopia*, Godart, Enc. Meth., vol. ix, p. 177, n. 4 (1819); *Isamia alopia*, Moore, Proc. Zool. Soc. Lond., 1883, p. 313, n. 6, pl. xxxii, fig. 7, male; Lep. Ind., vol. i, p. 132 (1891); *Isamia sinica*, Moore, Proc. Zool. Soc. Lond., 1883, p. 312, n. 4, Lep. Ind., vol. i, p. 132 (1891).

There are several mistakes in the references as usually given. Herbst calls his fig. 3 on pl. cxix a ♂, while it is a ♀, and his figs. 1 and 2 on pl. cxx a ♀, while it is a ♂. Dr. F. Moore sets this right in Proc. Zool. Soc. Lond., 1883, page 311, n. 3, as regards the ♀; but on page 313, n. 6, erroneously calls figs. 1 and 2 ♀ instead of ♂. He also uses *superba* instead of *superbus* as originally written, and refers to plate 102 instead of plate 122. He makes two species out of Herbst's figures, while they represent one species only.

Dr. F. Moore in 1883 and again in 1891 records and keeps distinct four species of *Isamia* from South China. These four species are in my opinion one and the same species, which at Hongkong, and doubtless wherever it occurs in Southern China, is a most variable one. In Hongkong the larva has been reported to feed on *Strophanthus divergens*, Grah., Natural Order Apocynaceæ.

## Subfamily SATYRINÆ.

12. *MYCALESIS* (*Calysisme*) *MINEUS*, Linnaeus.

*Papilio mineus* Linnaeus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 471, n. 84 (1758); *Calysisme mineus* Moore, Trans. Ent. Soc. Lond., 1880, p. 162; Lep. Ind., vol. i, p. 187 (1892); *Mycalesis mineus*, Walker, Trans. Ent. Soc. Lond., 1895, p. 447, n. 13; *Mycalesis mineus*, var. *confucius*, Leech, Butt. China, Japan and Corea, p. 12, pl. ii, fig. 7, male (1892); Kirby, The Entomologist, vol. xxxii, p. 31 (1899).

The var. *confucius* is the dry-season form of *M. mineus* found in China. The larva in India feeds on grasses.

13. *MYCALESIS* (*Calysisme*) *HORSFIELDII*, Moore.

*Calysisme horsfieldii*, Moore, Lep. Ind., vol. i, p. 197, pl. lxvi, figs. 2, 2a, 2b,

male, wet-season form; 2c, male, dry-season form (1892);? *Mycalesis perseus*, Wallace (nec Fabricius), Trans. Ent. Soc. Lond., 1895, p. 447, n. 12.

Only two species of *Mycalesis* have hitherto been found in Hongkong. Walker gives *mineus* and *perseus*. The latter is stated by Dr. F. Moore in Lep. Ind., vol. i, pp. 177, 178, to have a very wide range, being found almost throughout India, Ceylon, Burma, the Malay Peninsula and many of the islands of the Malay Archipelago, and in Hainan and Formosa. It may, as Walker states, be found in Hongkong, but it is more probable, I think, that what he identified as *M. perseus* is the comparatively common *M. horsfieldii*, which has been described since Mr. Walker wrote his paper. It has never been bred, but its larva will almost certainly be found on grasses.

#### 14. LETHE EUROPA, Fabricius.

*Papilio europa*, Fabricius, Syst. Ent., p. 500, n. 247 (1775); *Lethe europa*, Walker, Trans. Ent. Soc. Lond., 1895, p. 448, n. 14; Moore, Lep. Ind., vol. i, p. 256 (1892).

The larva feeds on *Bambusa* Sp., natural order Gramineæ.

#### 15. LETHE CONFUSA, Aurivillius.

*Lethe confusa*, Aurivillius, Ent. Tids., vol. xviii, p. 142, n. 15 (1897); ? *Lethe verma*, Walker, Trans. Ent. Soc. Lond., 1895, p. 448, n. 15; *Lethe rohria*, Kirby (nec Fabricius), The Entomologist, vol. xxxii, p. 31 (1899).

Mr. James J. Walker records *Lethe verma*, Kollar, from a single specimen taken in the Happy Valley, Hongkong, in March. This is, I think, probably an incorrect identification, the present species being meant. *L. verma* is a common species in the hills of Northern India, and is found in the hills of Western China, but not I believe in Western China. As the name implies, there has been much confusion regarding this species. Until recently it has been always known as *L. rohria* Fabricius, until Dr. Aurivillius pointed out that the true *rohria* is an older name for the *Lethe dyrtia* of Felder. The larva will almost certainly be found to feed on the leaves of bamboo.

#### 16. YPETHIMA AVANTA, Moore.

*Ypthima avanta*, Moore, Proc. Zool. Soc. Lond., 1874, p. 567; Elwes and Edwards, Trans. Ent. Soc. Lond., 1893, p. 33, n. 38, pl. i, fig. 27, *clasp of male*; *Ypthima ordinata*, Butler, Proc. Zool. Soc. Lond., 1880, p. 148, pl. xv, fig. 3; *Ypthima hubneri*, Walker, Trans. Ent. Soc. Lond., 1895, p. 448, n. 16;? *Ypthima argus*, Walker, Trans. Ent. Soc. Lond., 1895, p. 448, n. 17.

*T. avanta* is seasonally dimorphic, *avanta* is the dry-season form,

while *ordinata* is the wet-season form. I have ventured to put Walker's two species *hübneri* [recte *huebneri*] and *argus* under *avanta*, as I do not believe that either of them are found in Hongkong, and that they have been wrongly identified. *T. avanta* is found in the Western Himalayas, in the plains of the North-Western Provinces, at Ranchi and Bholahat in Maldah, both in the plains of Bengal, in the Eastern Himalayas, in the Ganjam district of Eastern India, throughout Burma, and on the West River in Southern China. It has not been bred, but the larva will be found on grasses.

#### 17. MELANITIS ISMENE, Cramer.

*Papilio ismene*, Cramer, Pap. Ex., vol. i, p. 40, pl. xxvi, figs. A, B, *male*, *dry-season form* (1775); *Melanitis determinata*, Butler, Proc. Ent. Soc. Lond., 1885, p. vi, *Melanitis leda*, Walker, Trans. Ent. Soc. Lond., 1895, p. 449, n. 18.

This species is seasonally dimorphic, the dry-season form being *ismene*, the wet-season form is *determinata*. The larva feeds on rice, *Oryza sativa*, Linnæus, on large, coarse grasses, all of the natural order *Gramineæ*.

#### 18.\* MELANITIS BELA, Moore.

*Melanitis bela*, Moore, Horsfield and Moore, Cat. Lep. E.I.C., vol. i, p. 223, n. 465 (1857); *Cylo aswa*, Moore, Proc. Zool. Soc. Lond., 1865, p. 769; *Melanitis aswa*, Walker, Trans. Ent. Soc. Lond., 1895, p. 449, n. 19.

This species is also seasonally dimorphic, *bela* being the wet-season form, *aswa* the dry-season form. Walker records one specimen taken at Kowloon late in 1891. I have not seen it from thence, but do not doubt the correctness of the record. It occurs in Western China, and as far westwards again as Kashmir. It has not been bred.

#### Subfamily AMATHUSIINÆ.

#### 19. DISCOPHORA TULLIA, Cramer.

*Papilio tullia*, Cramer, Pap. Ex., vol. i, p. 127, pl. lxxxi, figs. A, B, *female* (1775); *Discophora tullia*, Staudinger, Ex. Schmett., p. 189, pl. lxiii, *female* (1887); Walker, Trans. Ent. Soc. Lond., 1895, p. 449, n. 20; Moore, Lep. Ind., vol. ii, p. 197 (1895); Fruhstorfer, Berl. Ent. Zeitsch., vol. xlv, p. 13 (1900).

As far as is known, the larvæ of all the species of this genus feed on *Bambusa* sp., Natural Order *Gramineæ*, and are gregarious, very hairy, and are frequently mistaken for the larvæ of moths.

#### 20. CLEROME EUMEUS, Drury.

*Danais Festivus eumeus*, Drury, Ill. Ex. Ins., vol. i, p. 4, pl. ii, figs. 3, *male*, *upper—and underside* (1770); *Clerome eumeus*, Westwood, Trans. Ent. Soc. Lond.,



second series, vol. iv, p. 183, n. 2 (1858); Butler, Cat. Fab. Lep. B. M., p. 44, n. 1 (1869); Walker, Trans. Ent. Soc. Lond., 1895, p. 450, n. 21; Moore, Lep. Ind., vol. ii, p. 209 (1895); Kirby, The Entomologist, vol. xxxii, p. 31 (1899); *Papilio eumea* (sic), Cramer, Pap. Ex., vol. ii, p. 132, pl. clxxxiii, figs. C, D, *female* (1777); *Papilio gripus* Fabricius, Syst. Ent., App., p. 829, n. 178-79 (1775); Sp. Ins., vol. ii, p. 58, n. 255 (1781); Ent. Syst., vol. iii, pt. 1, p. 149, n. 457 (1793); Herbst, Pap., vol. vi, p. 77, n. 41, pl. cxxxv, figs. 3, 4, *female* (1793); *Satyrus gripus*, Godart, Enc. Meth., vol. ix, p. 497, n. 70 (1819); *Papilio grispus* (sic), Fabricius, Mant. Ins., vol. ii, p. 28, n. 294 (1787); *Papilio decempunctatus* Goeze, Ent. Beytr., vol. iii, pt. 1, p. 212, n. 31 (1779).

No species of *Clerome* has, I believe, ever been bred. The larva will almost certainly be found to feed on *Bambusa* sp., Natural Order *Gramineæ*.

It is remarkable that no species of the subfamily *Elymniinæ* has been recorded from Hongkong. As the importation of ornamental palms on which the larvæ feed is probably considerable from countries where species of the group are common, it is more than probable that species of *Elymniinæ* will become naturalised in the island and on the adjoining mainland.

#### Subfamily NYMPHALINÆ.

##### 21.\* CHARAXES (*Eulepis*) ATHAMAS, Drury.

*Papilio Eques achivus athamas*, Drury, Ill. Ex. Ins., vol. i, p. 5, pl. ii, figs. 4, *male*, upper and underside (1770); *Papilio athamas*, Cramer, Pap. Ex., vol. i, p. 140, pl. lxxxix, figs. C, D, *male* (1776); Walker, Trans. Ent. Soc. Lond., 1895, p. 458, n. 52; Moore, Lep. India., vol. ii, p. 254 (1895); *Eulepis athamas*, Rothschild and Jordan, Nov. Zool., vol. v, pl. x, figs. 1, 2, 3, 5, 7, 8, 9, 10, 11, *male*; 4, *female*; pl. xi, figs. 1, 2, 5, 6, 7, 10, 11, 12, *male*; 3, 4, 8, 9, *female* (1898); vol. vi, p. 245, n. 12 (1899).

Mr. James J. Walker records that he once saw this butterfly in Hongkong. Messrs Rothschild and Jordan under *b. E. athamas athamas* record it from South China (Hongkong), but add "Authentic Chinese specimens we have not examined." I have seen no specimen from Hongkong. The larva in Ceylon feeds on *Cæsalpinia*, Natural Order *Leguminosæ*; in South India on *Grewia* sp. Natural Order *Tiliaceæ*, on *Cæsalpinia*, *Painciana*, *Adenanthera*, *Acacia*, and *Albizzia*, Natural Order *Leguminosæ*; and in the Western Himalayas on *Acacia* and *Albizzia*.

##### 22. CHARAXES POLYXENA POLYXENA, Cramer.

*Papilio polyxena*, Cramer, Pap. Ex., vol. i, p. 85 pl. liv, figs. A, B, *female* (1775); *Haridra polyxena*, Moore, Lep. Ind., vol. ii, p. 247 (1896); *Charaxes polyxena polyxena*, Rothschild and Jordan, Nov. Zool., vol. vii, p. 334 (1900); *Nymphalis polyxo*, Godart, Enc. Meth., vol. ix, p. 399, n. 169 (1819); *Papilio bernardus*, Fabricius, Ent. Syst., vol. iii, pt. i, p. 71, n. 223 (1793); *Nymphalis (Charaxes) bernardus*,

Donovan, *Ins. China* (Westwood's edition), p. 63, pl. xxxiv, figs. 1, 2, *female* (1842); *Charaxes bernardus*, Butler, *Cat. Fab. Lep. B. M.*, p. 50, n. 2 (1869); Walker, *Trans. Ent. Soc. Lond.*, 1895, p. 459, n. 53; *Haridra bernardus*, Moore, *Lep. Ind.*, vol. ii, p. 246 (1896); *Doxocopa epilais*, Hubner, *Verz. bek. Schmiett.*, p. 50, n. 464 (1816).

My material from Hongkong can superficially be broken up into two distinct groups, one with pale tawny bands on the upper side of both wings, of which I have four males and one female, the males are dated 17th and 26th April, and 5th December, while one has no date; the female also bears no date: the other with white bands, of which I have two pairs, one male is dated 14th July, the other is undated; one female is dated 21st July, the other bears no date. *P. polyxena* was originally described from China, and my single tawny banded example of that sex agrees very well with Cramer's figure, but that the "tail" to the binding from the third median nervule is much longer (in Cramer's specimen it was probably broken off), and the dark and light markings of both wings on the underside are more strongly contrasted in Cramer's figure than in my specimen. The tawny banded males are extremely constant, and differ but little from my female; the "tail" to the hindwing is of course much shorter, and the submarginal series of black spots on the upperside of that wing instead of being each centred with a white spot has the anteriormost spot in one instance and the two anteriormost spots in three instances so marked. Of the white banded group in one male the band consists of four portions divided by the veins, the anterior the smallest, the posterior the largest, with a minute white spot anterior to the first of these with no spots beyond it whatever; in my other male the band consists of eight spots, there being two (instead of one as in the first-described specimen) in the upper discoidal interspace, and another in the subcortal interspace, as well as the one on the sutural area. The markings of the hindwing on the upperside also differ in my two male specimens, in the first described of these the discal band is fulvous, in the latter it is anteriorly white. My two white banded females also differ the one from the other, and neither of them agree with Donovan's figure, as that figure shows no discal band on the upperside of the hindwing, while in my specimens this band is prominent. In my two examples one has on the upperside of the forewing three fulvous-white spots anterior to the third median nervule, which are absent in the other. My specimens agree fairly well with Dr. Moore's description of that sex under the name of *H. bernardus*. Mr. J. O. Westwood remarked on Donovan's figures that "This uncommonly rare Chinese butterfly has not been figured in any other work. Fabricius described it only from the drawings of Jones. I possess a specimen in which the central

fascia is nearly white, and is continued half way across the posterior wings, and the black spots in the latter are very broad and confluent, without white in the centre." Dr. Moore separated *H. bernardus* from *H. polyxena*, and noted that "This species [*bernardus*] is distinct from *H. polyxena*, Cramer, and is allied to the Indian *H. jalinder*, Butler, and *H. hippanax*, Felder." Fabricius described the medial band across the forewing on the upperside in *P. bernardus* as "flava," which is yellow, while Dr. Moore calls it "bluish-white." Donovan's figure of *P. bernardus* shows this band white just tinged with yellow. Fabricius' description of *P. bernardus* evidently applies to Cramer's figure of *P. polyxena*. In describing the male of *H. bernardus* Dr. Moore says that the white band on the upperside of the forewing ends "At the lower [first] median veinlet." This is probably a slip for submedian nervure. Messrs. Rothschild and Jordon give seven local races of *Charaxes polyxena*, of which the Chinese form "*G. polyxena polyxena*" is the last. They consider the white and yellow banded forms to be one and the same species, the species being dichromatic. It has never been bred.

### 23. *APATURA (Rohana) PARYSIS*, Westwood.

*Apatura parisatis*, Westwood, Gen. Diurn. Lep., vol. ii, p. 305, n. 20, note (1850); *A. parisatis*, Staudinger, Ex. Schmett., p. 156, pl. lv, male and female (1886); *Rohana parisatis*, Moore, Lep. Cey., vol. iii, p. 17, pl. exciv, figs. 2, 2a, male; 2b, 2c, female (1896); *Apatura parysatis*, Walker, Trans. Ent. Soc. Lond., 1895, p. 452, n. 27.

The larva of *A. parysatis* has been bred in Hongkong on (*hiatus in MS.*)

That of the allied *A. carniba*, Moore, feeds in Ceylon and South India on *Celtis*, Natural Order *Urticacæ*.

### 24. *PARHESTINA ASSIMILIS*, Linnæus.

*Papilio assimilis*, Linnæus, Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 479, n. 129 (1758); Mus. Ulr., p. 300, n. 118 (1764); Clerck's Icones Ins., vol. i, pl. xvi, fig. 1 (1759); Drury, Ill. Ex. Ins., vol. i, p. 33, pl. xvii, figs. 3, 4, male (1770); Cramer, Pap. Ex., vol. ii, p. 90, pl. cliv, fig. A, female (1777); Herbst, Pap., vol. vi, p. 43, n. 24, pl. cxxvi, figs. 4, 5, male (1793); Esper, Ausl. Schmett., p. 230, pl. lvii, fig. 1 (?1798); *Nymphalis assimilis*, Godart, Enc. Méth., vol. ix, p. 393, n. 151 (1819); *Hestina assimilis*, Walker, Trans. Ent. Soc. Lond., 1895, p. 452, n. 28.

The larva of this species feeds in Hongkong on (*hiatus in MS.*)

### 25. *PARHESTINA MENA*, Moore.

*Hestina mena*, Moore, Ann. and Mag. of Nat. Hist., third series, vol. i, p. 48, n. 3 (1858); Leech, Butt. from China, Japan, and Corea, vol. i, p. 143, pl. xx, figs. 3, 4 male (1892); Walker, Trans. Ent. Soc. Lond., 1895, p. 452, n. 29; *Diadema*

*mena*, Butler, Ann. and Mag. of Nat. Hist., vol. xvi, p. 398, n. 3 (1865); *Parhestina mena*, Moore, Lep. Ind., vol. iii, p. 36, pl. ccii, figs. 1, 1a, female (1896); *Hestina nigrivena*, Leech, The Ent., vol. xxiii, p. 31 (1890); Grose-Smith and Kirby, Rhop. Ex., pl. *Hestina* i, figs. 1, 2, male (1891); *Hestina viridis*, Leech, The Ent., vol. xxiii, p. 32 (1890).

Mr. Leech has himself sunk *H. viridis* to the rank of a variety of *H. mena*. From his figure of it (i.e., fig. 3) the underside of the hindwing has "the costa above the costal nervure and the abdominal fold yellow." Mr. Leech notes, however, that male specimens of var. *viridis* received subsequent to the description of the species have none of this yellow coloration. I am a little doubtful if this character is not sufficient to separate *H. viridis*, Leech, and *H. nicevillei*, Moore, from *P. assimilis*, Linnæus, and *P. mena*, Moore. *H. mena* was originally described from "North India," in 1895 Mr. Walker recorded it from Hongkong, but Dr. Moore in 1896 said the habitat is unknown. I have seen but a single pair from Hongkong, the female of which agrees very closely with Dr. Moore's figure of that sex (not a male as stated). I would draw especial attention to a series of four or five submarginal pink spots on both surfaces of the hindwing which are visible in my specimens, in Messrs Grose-Smith and Kirby's figures and in Mr. Leech's figure No. 4 of var. *nigrivena*. These spots occupy the same position exactly as the crimson spots in *P. assimilis*, which has led me to suspect that *P. mena* is not improbably a dimorphic form of that species. The genus *Parhestina* is evidently in a very plastic state, and it appears to me that the process of mimicry to species of *Danaïs* is now actively going on. Typical *P. assimilis* with its brilliant crimson spots is a conspicuous species, and it is evident that it would be advantageous to it to become less gaudily coloured and to be able to pass itself off as a nauseous *Danaïs*. Mr. James J. Walker records the breeding of a specimen in Hongkong, but does not mention the food-plant of the larva, which still remains unknown.

## 26. EUTHALIA PHEMIUS, Doubleday and Hewitson.

*Adolias phemius*, Doubleday and Hewitson, Gen. Diurn. Lep., vol. ii, p. 291, n. 13 (1850); *Itanus phemius*, pl. xl, fig. 4, male (1850); id., Moore, Trans. Ent. Soc. Lond., new series, vol. v, p. 65, n. 4, pl. iii, fig. 3, male (nec female) (1859); *Euthalia phemius* Staudinger, Ex. Schmett., p. 153, pl. liv. male (nec female) (1886); Walker, Trans. Ent. Soc. Lond., 1895, p. 457, n. 47; Moore, Lep. Ind., vol. iii, p. 123, pl. cccxxviii, figs. 1, 1a, male; 1b, 1c, female (1896); *Adolias sancara*, Moore, Horsfield and Moore, Cat. Lep. Mus. E.I.C., vol. i, p. 195, n. 394 (1857); Trans. Ent. Soc. Lond., new series, vol. v, p. 78, n. 34, pl. ix, fig. 1, female (1859).

Mr. James J. Walker having taken a pair coupled of this butterfly in Hongkong finally settles the question as to the opposite sexes of the



insect. He also obtained a pupa attached to a twig under some litchi trees (*Nephelium Lit-chi*, Camb., Natural Order *Sapindaceæ*), but that cannot be the food-plant of the larva in India, as it grows wild nowhere in this country, while the butterfly is common in the Eastern Himalayas, Assam, Upper Burma, and Indo-China. Its food-plant still remains unknown.

## 27. LIMENITIS (Ladaga) CAMILLA, Linnæus.

*Papilio camilla*, Linnæus, Mus. Ulr., p. 304, n. 122 (1764); *Nymphalis camilla*, Aurivillius, Kongl. Svenska Vet.—Akad. Hand., vol. xix, n. 5, p. 101, n. 122 (1882); *Limenitis camilla*, Kirby in Allan's Nat. Hist., Butterflies, vol. i, pt. 1, p. 142, p. 145, underside of normal imago, upper and underside of black variety; pl. xxiii, fig. 3, upperside of normal imago; pl. iii, fig. 7, larva (1896); *Papilio prorsa*, Linnæus, Mus. Ulr., p. 303, n. 121 (1764), nec *Papilio prorsa*, Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 480, n. 134 (1758); *Papilio sibilla*, Linnæus, Syst. Nat. Ins., ed. xii, vol. i, pt. 2, p. 781, n. 186 (1767); *Limenitis sibylla*, Leech, Butt. from China, Japan, and Corea, vol. i, p. 185 (1892); *Limenitis sidii*, var. *japonica*, Ménétriers, Cat. Lep. Pét., pt. 2, p. 103, n. 566 (1855); *Ladaga japonica*, Moore, Lep. Ind., vol. iii, p. 174 (1896).

This is a new record from Hongkong, though common in Japan, Corea, Amurland and Europe. Dr. Moore keeps the Japan form as a distinct species under the name *L. japonica*. Mr. Leech says that in Japan the larva feeds on *Lonicera japonica*, Thunberg, Natural Order *Caprifoliaceæ*. In England "The White Admiral" feeds also on honeysuckle.

## 28.\* ATHYMA SULPITIA, Cramer.

*Papilio sulphitia*, Cramer, Pap. Ex., vol. iii, p. 37, pl. cexiv, figs. E, F (1779); Herbst, Pap., vol. ix., p. 95, n. 19, pl. ccxl, figs. 3, 4 (1793); *Athyma sulphitia*, Walker, Trans. Ent. Soc. Lond., 1895, p. 456, n. 45; *Parathyma sulphitia*, Moore, Lep. Ind., vol. iii, p. 176 (1896). *Nymphalis strophia*, Godart, Enc. Meth., vol. ix, p. 431, n. 257 (1823).

The larva of this butterfly has never been found.

## 29. ATHYMA PERIUS, Linnæus.

*Papilio perius*, Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 471, n. 79 (1758); *Athyma perius*, Walker, Trans. Ent. Soc. Lond., 1895, p. 456, n. 43; Moore, Lep. Ind., vol. iii, p. 186 (1896); *Papilio leucothoë*, Linnæus, Syst. Nat., ed. x, p. 478, n. 122 (1758); *Limenitis leucothoë*, Donovan, Ins., China, new edition, p. 65, pl. xxxv, fig. 3 (1842); *Papilio polyzina*, Donovan, Ins., China, first edition, pl. xxxv, fig. 3 (1799).

The larva has been recorded to feed in Java on a species of *Phyllanthus*, Natural Order *Euphorbiaceæ*; in South India it feeds on two species of *Glochidion*, Natural Order *Euphorbiaceæ*.

30. *ATHYMA ASITA*, Moore.

*A. asita*, Moore, Proc. Zool. Soc. Lond., 1858, p. 13, n. 8; *Pantoporia asita*, Moore, Lep. Ind., vol. iii, p. cclxiii, figs. 2, male; 2a, female (1897); *Athyma nestle*, Walker (*nec* Cramer) Trans. Ent. Soc. Lond., 1895, p. 456, n. 44.

This insect has never been bred.

31. *ATHYMA SELENOPHORA*, Kollar.

*Limenitis selenophora*, Kollar, Hügel's Kaschmir, vol. iv, pt. 2, p. 426, n. 1, pl. vii, figs. 1, 2, male (1844); *Athyma selenophora*, Walker, Trans. Ent. Soc. Lond., 1895, p. 457, n. 46; *Pantoporia selenophora*, Moore, Lep. Ind., vol. iii, p. 205 (1897); *Athyma bahula*, Moore, Proc. Zool. Soc. Lond., 1858, p. 12, n. 3, pl. i, fig. 2, female.

The larva in South India feeds on *Adina cordifolia*, Hook. f., Natural Order *Rubiaceæ*.

32.\* *NEPTIS ANTILOPE*, Leech.

*Neptis antilope*, Leech, The Entomologist, vol. xxiii, p. 35 (1890); Butt. from China, Japan, and Corea, vol. i, p. 197, pl. xviii, fig. 2, male (1892).

Mr. Leech records having taken two specimens of this species at Hongkong in March, 1886. It has never been bred.

33. *NEPTIS COLUMELLA*, Cramer.

*Papilio columella*, Cramer, Pap. Ex., vol. iv, p. 15, pl. cccxvi, figs. A, B, female (1780); *Neptis columella*, Walker, Trans. Ent. Soc. Lond., 1895, p. 454, n. 36; *Andrapana columella*, Moore, Lep. Ind., vol. iii, p. 220 (1897); *Neptis ophiana*, Moore, Proc. Zool. Soc. Lond., 1872, p. 561; *Neptis martabana*, Moore, Trans. Ent. Soc. Lond., 1881, p. 310; *Neptis ophiana*, var. *nilgirica*, Hampson, Journ. A.S.B., vol. lvii, pt. 2, p. 353, n. 57 (1888); *Andrapana columella singa*, Fruhstorfer, Berl. Ent. Zeitsch., vol. xlv, p. 286 (1899).

This butterfly has never been bred.

34. *NEPTIS EURYNOME*, Linnæus.

*Papilio eurynome*, (? *Papilio hylas*, male, *nec* female), Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 486, n. 173 (1758); *Limenitis eurynome*, Westwood's ed. Donovan's Ins. China, p. 66, pl. xxxv, fig. 4, female (1842); *Neptis eurynome*, Moore, Proc. Zool. Soc. Lond., 1874, p. 570; Lep. Ind., vol. iii, p. 244 (1897); Walker, Trans. Ent. Soc. Lond., 1895, p. 454, n. 35; *Papilio leucothoë*, Clerck, Icones Ins., vol. iii, pl. v, fig. 4 ( ); Donovan, Ins. China, first edition, pl. xxxv, fig. 3, female (1799); *Papilio aceris*, Esper, Eur. Schmett., vol. i, pt. 2, pl. lxxxii, fig. 1, female (1783); *Neptis hainana*, Kirby (*nec* Moore), The Entomologist, vol. xxxii, p. 31 (1899).

The synonymy given above is mainly taken from Dr. Moore's Lep. Ind. Linnæus' Syst. Nat. Ins., tenth edition, is not available, so I am

unable to check the first entry; though apparently the name given therein on p. 486, n. 173, is *hylas* and not *eurynome*. If this be so, *eurynome* cannot be ascribed to Linnæus, but should be credited to Westwood, as was done by Dr. Moore in 1874. Donovan's fig. 4 of pl. xxxv applies to this insect: he called it *leucothoë*, mistaking the insect for the *Athyma leucothoë* described by Linnæus as *Papilio leucothoë*, which itself is a synonym of the older *Papilio* [*Athyma*] *perius*, Linnæus. As there is an older *Neptis* named *leucothoë* of Cramer the species under consideration cannot be called *Neptis leucothoë*, Donovan. Mr. Kirby records *Neptis hainana*, Moore, originally described from Hainan Island, China, from Hongkong, but Dr. Moore considers that species to be distinct from the Hongkong one, so as I have no Hainan specimens I have followed him in this. This group of the genus occurs almost everywhere in the East, and in my opinion has received far too many names. Wherever the seasons are markedly wet and dry, seasonal dimorphism is very strongly marked, particularly so in Hongkong. The insect in Hongkong has not been bred, but the transformations of its Indian allies are well known, *N. varmana*, Moore, in South India being found in the larval state on peas of various kinds, Natural Order *Leguminosæ*.

### 35.\* *PRECIS ATLITES*, Linnæus.

*Papilio atlites*, Linnæus, Cent. Ins., p. 24, n. 72 (Amoen., vol. vi, p. 407), (1763); *Junonia atlites*, Walker, Trans. Ent. Soc. Lond., 1895, p. 453, n. 31, Moore, Lep. Ind., vol. iv, p. 69 (1899).

The larva in Java feeds on a species of *Achyranthes*, Natural Order *Amarantaceæ*, and in South India on *Hygrophila* and *Barleria*, Natural Order *Acanthaceæ*.

### 36. *PRECIS ORITHYA*, Linnæus.

*Papilio orithya*, Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 473, n. 94 (1758); Cramer, Pap. Ex., vol. i, p. 28, pl. xix, figs. C, D, *female*; pl. xxxii, figs. E, F, *male* (1775); *Cynthia orithya*, Westwood, Donovan's Ins., China, new edition, p. 64, pl. xxxv, fig. 2, *female* (1842); *Junonia orithya*, Walker, Trans. Ent. Soc. Lond., 1895, p. 454, n. 34; Moore, Lep. Ind., vol. iv, p. 71 (1899); *Precis orithya*, Butler, Ann. and Mag. of Nat. Hist., seventh series, vol. viii, p. 200, n. 12 (1901).

The larva has been recorded in the Himalayas to feed on *Antirrhinum Orontium* Linn., Natural Order *Scrophularinæ*; in South India on *Hygrophila*, Natural Order *Acanthaceæ*; and in Ceylon on *acanthads*.

### 37. *PRECIS HIERTA*, Fabricius.

*Papilio hierta*, Fabricius, Ent. Syst., Suppl., p. 424, n. 281-2 (1798); *Junonia hierta*, Moore, Lep. Ind., vol. iv, p. 75 (1899); *Papilio ænone*, Cramer (*nec* Linnæus),

Pap. Ex., vol. i, p. 55, pl. xxxv, figs. A, B, female; C, male (1775); *Cynthia ænone*, Westwood, Donovan's Ins. China, new edition, p. 66, pl. xxxvi, fig. 1, male (1842); *Junonia ænone*, Walker, Trans. Ent. Soc. Lond., 1895, p. 454, n. 33; *Precis ænone* [sic], Butler, Ann. and Mag. of Nat. Hist., seventh series, vol. viii, p. 203, n. 22 (1901).

The larva feeds in South India on *Hygrophila*, Natural Order *Acanthaceæ*, also on two plants of which the vernacular names are "Kolay Mooloo" and "Byle Choolee."

### 38. PRECIS LEMONIAS, Linnæus.

*Papilio lemonias*, Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 473, n. 93 (1758); *Junonia lemonias*, Walker, Trans. Ent. Soc. Lond., 1895, p. 454, n. 32; Moore, Lep. Ind., vol. iv, p. 76 (1899); *Papilio aonis*, Cramer, Pap. Ex., vol. i, pp. 55, 56, pl. xxxv, figs. D, E, F, male (1775).

In India the larva feeds on *Nelsonia*, *Hygrophila*, *Strobilanthes* and *Barleria*, all Natural Order *Acanthaceæ*.

### 39. PRECIS ALMANA, Linnæus.

*Papilio almana*, Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 472, n. 89 (1758); Cramer, Pap. Ex., vol. i, p. 90, pl. lviii, figs. F, G, (1775); *Cynthia almana*, Westwood, Donovan's Ins. China, new edition, p. 67, pl. xxxvi, fig. 2 (1842); *Junonia almana*, Moore, Lep. Ind., vol. iv, p. 79 (1899); *Papilio asterie*, Linnæus, Syst. Nat., ed. x, vol. i, p. 472, n. 90 (1758); Cramer, Pap. Ex., vol. i, p. 90, pl. lviii, figs. D, E (1775); *Junonia asterie*, Walker, Trans. Ent. Soc. Lond., 1895, p. 453, n. 30.

The larva in Java has been found feeding on *Justicia*, Natural Order *Acanthaceæ*; in South India on *Hygrophila*, Natural Order *Acanthaceæ*; in Calcutta on *Gloxinia* or *Osbeckia*, the latter Natural Order *Melastomaceæ*.

### 40. VANESSA CANACE, Johanssen.

*Papilio canace*, Johanssen, Amœn. Acad., vol. vi, p. 406, n. 68 (1764); Linnæus, Syst. Nat. Ins., ed. xii, vol. i, pt. ii, p. 779, n. 173 (1767); *Vanessa canace*, Walker, Trans. Ent. Soc. Lond., 1895, p. 458, n. 50; *Papilio charonia*, Drury, Ill. Ex. Ent., vol. i, p. 28, pl. xv, figs. 1, 2, female (1770); Cramer, Pap. Ex., vol. i, pp. 73, 74, pl. xlvii, figs. A, B, C (1775); Herbst, Pap., vol. vii, p. 42, n. i, pl. xlx, figs. 1, 2 (1794); *Vanessa charonia*, Godart, Enc. Méth., vol. ix, p. 308, n. 27 (1819); *Kaniska charonia*, Moore, Lep. Ind., vol. iv, p. 94 (1899); *Papilio kollina*, Meerburgh, Afb. Zeldz. Gew., pl. xliii (1775).

Dr. Moore records this species as *Kaniska Charonia*, Drury, from Hongkong, but specimens from thence are identical with Indian examples of *V. canace*, Linnæus. Mr. James J. Walker has bred it in Hongkong on a species of *Smilax*, Natural Order *Liliaceæ*.

### 41. VANESSA INDICA, Herbst.

*Papilio atalanta* (part), Herbst, Pap., vol. vii, p. 171, n. 64, *Papilio atalanta*



*indica*, pl. clxxx, figs. 1, 2 (1794); *Vanessa indica*, Walker, Trans. Ent. Soc. Lond., 1895, p. 485, n. 49; *Papilio atalanta* Cramer (nec Linnæus), Pap. Ex., vol. i, p. 132, pl. lxxxiv, figs. E, F (1775); *Hamadryas decora calliroë* Hübner, Sarmul. Ex. Schmett. (1806-16); *Pyrameis callirhoë* [sic], Moore, Horsfield and Moore, Cat. Lep. Mus. E. I. C., vol. i, p. 138, n. 879 (1857); *Vanessa vulcania*, Godart, Enc. Méth., vol. ix, p. 320, n. 55 (1819).

The larva of this butterfly in Ceylon feeds on *Urtica*, and in the Western Himalayas on different nettles of the Natural Order *Urticacæ*.

#### 42. VANESSA CARDUI, Linnæus.

*Papilio cardui*, Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 475, n. 107 (1758); *Vanessa cardui*, Walker, Trans. Ent. Soc. Lond., 1895, p. 457, n. 48; Moore, Lep. Ind., vol. iii, p. 107 (1899).

The larva has been recorded in Ceylon to feed on *Artemisia*, Natural Order *Compositæ*; at Kandahar on different species of thistles; at Jutogh in the Western Himalayas on the common artichoke and on mallow; in the same region on nettles, but this is a doubtful food-plant, on thistles, on *Debregeasia*, Natural Order *Urticacæ*, and on *Carduus*, Natural Order *Compositæ*; in South India on *Zornia*, Natural Order *Leguminosæ*, and on *Blumea*, Natural Order *Compositæ*; and at Lucknow on *Gnaphalium*, Natural Order *Compositæ*.

#### 43. SYMBRENTHIA LUCINA, Cramer.

*Papilio lucina*, Cramer, Pap. Ex., vol. iv, p. 82, pl. cccxxx, figs. E, F, female (1780); *Symbrenthia lucina*, Moore Lep. Ind., vol. iv, pp. 113, 114 (1906); *Symbrenthia hyppoclus lucina*, Fraustorfer, Berl. Ent. Zeitsch., vol. xlv, p. 20 (1900); *Symbrenthia khasiana*, Moore, Proc. Zool. Soc. Lond., 1874, p. 569; *Symbrenthia daruka*, Moore, Proc. Zool. Soc. Lond., 1874, p. 570, pl. lxvi, fig. 18, male; *Symbrenthia hyppoclus* [sic], Walker [nec Cramer], Trans. Ent. Soc. Lond., 1895, p. 458, n. 51.

In Sikkim the larva feeds on the stinging nettle *Girardinia* sp., in the Western Himalayas on nettles, *Debregeasia* sp., Natural Order *Urticacæ*.

#### 44. HYPOLIMNAS BOLINA, Linnæus.

*Papilio bolina*, Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 479, n. 124 (1758); *Hypolimnas bolina*, Walker, Trans. Ent. Soc. Lond., 1895, p. 455, n. 39; *Apatura bolina*, Moore, Lep. Ind., vol. iv, pp. 140, 144 (1900); *Papilio iacintha*, Drury, Ill. Ex. Ins., vol. ii, p. 36, pl. xxi, figs. 1, 2, female, (1773); *Nymphalis jacintha*, Westwood, Donovan's Ins. China, new edition, p. 68, pl. xxxvii, fig. 1, female (1842).

Mr. Gervose F. Mathew has found the larva of *H. bolina* feeding on *Sida rhombifolia* Linn., and *Sida retusa* Linn., Natural Order *Malvaceæ*, also upon a *Convolvulus*, Natural Order *Convolvulacæ*, in the Australian region; in South India it feeds on *Portulaca*, Natural Order *Portulacacæ*, *Fleurya* and *Elatostema*, both Natural Order *Urticacæ*; in

18 L. de Nicéville—*Butterflies of Hongkong in Southern China*. [No. 1, Central India it has been found on *Rostellulria*, Natural Order *Acanthaceæ*.

45\*. *HYPOLIMNAS MISIPPUS*, Linnæus.

*Papilio misippus*, Linnæus, Mus. Ulr., p. 264, n. 83 (1764); *Hypolimnas misippus*, Walker, Trans. Ent. Soc. Lond., 1895, p. 455, n. 40; *Apatura misippus*, Moore, Lep. Ind., vol. iv, pp. 146, 150 (1900).

Mr. James J. Walker reports having seen a male of this species close to Kowloon in February. I have no other record of its occurrence in the colony. I do not know what form or forms of the female are found in China, three forms, *diocippus*, Cramer, *alcippoides*, Butler, and *inaria*, Cramer, are known from India. In India the larva feeds on *Portulaca*, Natural Order *Portulacææ*. In Ceylon it feeds on *Abutilon* and *Abelmoschus*, Natural Order *Malvaceæ*.

46. *CETHOSIA BIBLIS*, Drury.

*Papilio biblis*, Drury, Ill. Ex. Ins., vol. i, p. 9, pl. iv, figs. 2, 2a, male (1770); Cramer, Pap. Ex., vol. ii, p. 120, pl. clxxv, figs. A, B, male (1777); *Cethosia biblis*, Walker, Trans. Ent. Soc. Lond., 1895, p. 451, n. 26; Moore, Lep. Ind., vol. iv, pp. 185, 186 (1900).

The larva in Hongkong feeds on *Passiflora foetida*, Linn., Natural Order *Passifloreæ*. In India it feeds also on passion-flowers.

47. *ATELLA PHALANTHA*, Drury.

*Papilio phalantha*, Drury, Ill. Ex. Ins., vol. i, p. 41, pl. xxi, figs. 1, 2 (1770); *Atella phalantha*, Moore, Lep. Ind., vol. iv, p. 198 (1900); *Atella phalanta* [sic], Walker, Trans. Ent. Soc. Lond., 1895, p. 451, n. 25; *Papilio columbina*, Cramer, Pap. Ex., vol. iii, p. 76, pl. ccxxxviii, figs. A, B (1779); vol. iv, p. 92, pl. ccxxxvii, figs. D, E (1781).

In Java the larva feeds on *Ixora*, Natural Order *Rubiaceæ*; in Ceylon and on *Flacourtia*, Natural Order *Bixineæ*; on *Salix*, Natural Order *Salicineæ*, in India and the Isle of Réunion off the coast of Africa on the former genus of plants.

48. *CUPHA ERYMANTHIS*, Drury.

*Papilio erymanthis*, Drury, Ill. Ex. Ins., vol. 1, p. 29, pl. xv, figs. 3, 4 (1770); Cramer, Pap. Ex., vol. iii, p. 77, ccxxxviii, figs. F, G (1779); *Argynnis erymanthis*, Westwood, Donovan's Ins. China, new edition, p. 64, pl. xxxv, fig. 1 (1842); *Cupha erymanthis*, Walker, Trans. Ent. Soc. Lond., 1895, p. 451, n. 24; Fruhstorfer, Berl. Ent. Zeitsch., vol. xlii, p. 325 (1897); Stet. Ent. Zeit., vol. lx, p. 344 (1899); Moore, Lep. Ind., vol. iv, pp. 205, 206 (1900).

Mr. James J. Walker has bred the larva in Hongkong on *Glochidion eriocarpum*, Champ., Natural Order *Euphorbiaceæ*; in South India

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the larva has been found on a species of willow, and on *Flacourtia*, Natural Order *Bixineæ*.

49. *CIRRHOCHROA MITHILA*, Moore.

*Cirrochroa mithila*, Moore, Proc. Zool. Soc. Lond., 1872, p. 558; *Cirrochroa mithila*, Walker, Trans. Ent. Soc. Lond., 1895, p. 455, n. 38; *Cirrochroa rotundata*, Butler, Trans. Linn. Soc. Lond., Zoology, second series, vol. i, p. 543, n. 4 (1877).

This butterfly has never been bred.

50\*. *CIRRHOCHROA SATELLITA*, Butler.

*Cirrochroa satellita*, Butler, Cist. Ent., vol. i, p. 9 (1869); Walker, Trans. Ent. Soc. Lond., 1895, p. 455, n. 37; *Cirrochroa satellita* [sic], Moore, Lep. Ind., vol. iv, p. 223 (1900).

The transformations of this butterfly are unknown.

51\*. *ARGYNNIS CHILDRENI*, Gray.

*Argynnis childreni*, Gray, Zool. Misc., vol. i, p. 33 (1831); Walker, Trans. Ent. Soc. Lond., 1895, p. 456, n. 42; *Dryas childreni*, Moore, Lep. Ind., vol. iv, p. 229 (1900).

This fine butterfly has never been bred.

52. *ARGYNNIS HYPERBIUS*, Linnæus.

*Papilio hyperbius*, Linnæus, Cent. Ins., p. 25 (1763); *Papilio niphe*, Linnæus Syst. Nat. Ins., ed. xii, vol. i, pt. 2, p. 785, n. 208 (1767); Drury, Ill. Ex. Ins., vol. i, p. 12, pl. vi, figs. 1, 1a, female (1770); Cramer, Pap. Ex., vol. i, p. 21, pl. xiv., figs. D, E, male; B, C, female (1775); *Argynnis niphe*, Walker, Trans. Ent. Soc. Lond., 1895, p. 455, n. 41; *Acidalia hyperbius*, Moore, Lep. Ind., vol. iv, pp. 234, 235 (1900); *Papilio argynnis*, Drury, Ill. Ex. Ins., vol. i, p. 13, pl. vi, figs. 2, 2a, male (1770).

The larva of this interesting butterfly feeds on violets and pansies, *Viola*, Natural Order *Violaceæ*.

53. *ERGOLIS ARIADNE*, Johanssen.

*Papilio ariadne*, Johanssen, Amœn. Acad., vol. vi, p. 407 (1764); *Ergolis ariadne*, Walker, Trans. Ent. Soc. Lond., 1895, p. 451, n. 23; Moore, Lep. Ind., vol. v, pp. 18, 19 (1901).

The larva in India feeds on *Tragia*, Natural Order *Euphorbiaceæ*.

Family RIODINIDÆ.

Subfamily NEMEOBIINÆ.

54. *ZEMEROS FLEGYAS*, Cramer.

*Papilio flegyas*, Cramer, Pap. Ex., vol. iii, p. 158, pl. cclxxx, figs. E, F, male

(1780); *Zemeros flegyas*, Walker, Trans. Ent. Soc. Lond., 1895, p. 459, n. 54; *Papilio allica*, Fabricius, Mant. Ins., vol. ii, p. 52, n. 510 (1787); *Zemeros phlegyas indicus*, Fruhstorfer, Berl. Ent. Zeitsch., vol. xlii, p. 333 (1897); *Zemeros confucius*, Kirby (*nec.* Moore), The Entomologist, vol. xxxii, p. 31 (1899).

*Papilio flegyas* was originally described from China, *i.e.*, Southern China, probably from the Canton region in which Hongkong is situated, as this is the region from which all the old writers received all the species from China which they described. Mr. Fruhstorfer doubts Cramer's locality and records *Z. "phlegyas"* from East and West Java only. He names the North Indian form *Z. phlegyas indicus*, but Indian specimens are identical with those from China. Mr. Kirby records *Z. confucius*, Moore, from Hongkong, a species originally described from the Island of Hainan off the coast of China. Whether this species is a good one or not I am unable to say, as I possess no butterflies from Hainan. Dr. Holland says that it is a good species. In India the larva feeds on *Mæsa*, Natural Order *Myrsinæ*.

#### 55. ABISARA ECHERIUS, Stoll.

*Papilio echerius*, Stoll, Cramer's Pap. Ex., Suppl., vol. v, p. 140, pl. xxxi, figs. 1, 1A, male; 1B, female (1790); *Abisara echerius*, Walker, Trans. Ent. Soc. Lond., 1895, p. 459, n. 55; *Papilio odin*, Fabricius, Ent. Syst., vol. iii, pt. 1, p. 56, n. 175 (1793); *Lycæna ænodice*, Hübner, Verz. bek. Schmett., p. 23, n. 174 (1816).

I have not included in the synonymy given above the *Papilio coriolanus* of Fabricius, as it was described from "The Indies," and is said to have a common [on both wings] ferruginous band, which does not apply to the present species. Dr. Butler says it is well figured in the unpublished "Icones" of Mr. Jones, a book not available in Calcutta. The larva of the closely-allied *A. fraterna*, Moore, in Southern India on *Embelia* and *Ardisia*, Natural Order *Myrsinæ*; in Ceylon *A. prunosa*, Moore, feeds on *Ardisia* of the same Natural Order.

#### Family LYCÆNIDÆ.

#### 56. GERYDUS CHINENSIS, Felder.

*Miletus chinensis*, Felder, Verh. zool.-bot. Gesellsch. Wien, vol. xii, p. 488, n. 146 (1862); Reise Nov., Lep., vol. ii, p. 284, n. 364, pl. xxxv, figs. 35, 36, female (1865); *Gerydus chinensis*, Walker, Trans. Ent. Soc. Lond., 1895, p. 460, n. 57.

The transformations of no species of *Gerydus* is known.

#### 57. NEOPITHECOPS ZALMORA, Butler.

*Pithecopus zalmora*, Butler, Cat. Fab. Lep. B. M., p. 161 (1869); *Neopithecopus zalmora*, Walker, Trans. Ent. Soc. Lond., 1895, p. 460, n. 58.



The larva of this little butterfly feeds on *Glycosmis*, Natural Order *Rutaceæ* in South India.

#### 58. CHILADES LAIUS, Cramer.

*Papilio lajus*, Cramer, Pap. Ex., vol. iv, p. 62, pl. cccix, figs. D, E, *female* (1780); *Lycæna laius*, Butler, Cat. Fab. Lep. B. M., p. 171, n. 19 (1869); *Chilades laius*, Walker, Trans. Ent. Soc. Lond., 1895, p. 461, n. 63; *Hesperia cajus*, Fabricius, Ent. Syst., vol. iii, pt. 1, p. 296, n. 126 (1793); *Lycæna cajus*, Wallengren, Kongl. Svenska Fregatten Eugenies, Zoologi, pt. 1, p. 356, n. 12 (1861); *Plebeius leucofasciatus*, Röber, Iris, vol. i, p. 59, pl. iv, fig. 32, *male, wet-season form* (1886).

In India the larva feeds on *Citrus*, Natural Order *Rutaceæ*.

#### 59. ZIZERA MAHA, Kollar.

*Lycæna maha*, Kollar, Hügel's Kaschmir, vol. iv, pt. 2, p. 422, n. 9 (1844); *Zizera maha*, Walker, Trans. Ent. Soc. Lond., 1895, p. 460, n. 60; *Lycæna bohemannii*, Wallengren, Wien, Ent. Monatsb., vol. iv, p. 37, n. 16 (1860); Kong. Svenska Fregatten Eugenies, Zoologi, pt. 1, p. 355, n. 11 (1861); *Lycæna argia*, Elwes, Proc. Zool. Soc. Lond., p. 888, 1881; *Plebeius albocæruleus*, Röber, Iris, vol. i, p. 59, pl. iv, fig. 7, *male* (1886).

Dr. A. G. Butler in Proc. Zool. Soc. Lond., 1900, p. 107, n. 3, pl. xi, figs. 5, 6, *male*, gives *Lycæna opalina*, Poujade, with *L. marginata*, Poujade, and *Plebeius albocæruleus* [*sic*], Röber, from Burma, Tibet and China as distinct from *Lycæna maha*, Kollar, with *Polyammatatus chandala*, Moore, and *Zizera ossa*, Swinhoe, from Western India, occurring in the Lower Himalayas to Madras [? Bombay]; he also keeps distinct the *Lycæna diluta* of Felder, with *Lycæna squalida*, Butler, from the Eastern Himalayas southwards to Ganjam in the Madras Presidency. The latter species was originally described from Cachar, so the province of Assam must be added to the region of *Zizera diluta*. I am unable to follow Dr. Butler in his division of the wide-ranging *Z. maha* into three geographical races. No hard and fast geographical line can be drawn between them, *Z. maha* occurring from Kashmir at least (and probably still further to the west) on the west to Hongkong on the east. In Calcutta the larva feeds on *Oxalis*, Natural Order *Geraniaceæ*.

#### 60. ZIZERA OTIS, Fabricius.

*Papilio otis*, Fabricius, Mant. Ins., vol. ii, p. 73, n. 689 (1787); *Lycæna serica*, Felder, Verh. zool.-bot. Gesellsch. Wien, vol. xii, p. 487, n. 145 (1862); *Polyammatatus sangra*, Moore, Proc. Zool. Soc. Lond., 1865, p. 772, pl. xli, fig. 8, *male*; *Zizera sangra*, Walker, Trans. Ent. Soc. Lond., 1895, p. 460, n. 59.

Dr. A. G. Butler in Proc. Zool. Soc. Lond., 1900, p. 111, retains *Lycæna indica*, Murray, described from Allahabad in the North-Western

Provinces, but which Dr. Butler restricts to Central and South India and Ceylon, as distinct from *Papilio otis*. I have nothing to add to my note in Journ. A. S. B., vol. xlv, pt. 2, p. 611 (1897) with regard to these two supposed distinct species. In Calcutta the larva feeds on *Alysicarpus*, Natural Order *Leguminosæ*; in South India on *Zornia*, Natural Order *Leguminosæ*.

61. EVERES ARGIADES, Pallas.

*Papilio argiades*, Pallas, Reise, vol. i, app., p. 472, n. 65 (1771); *Lycæna argiade* Walker, Trans. Ent. Soc. Lond., 1895, p. 461, n. 61.

The larva in South India feeds on *Cylista*, Natural Order *Leguminosæ*.

62. NACADUBA ATRATA, Horsfield.

*Lycæna atratus*, Horsfield, Cat. Lep. E. I. Co., p. 78, n. 13 (1828).

In Ceylon the larva feeds on *Vateria*, Natural Order *Dipterocarpeæ*; in South India on *Wagatea*, Natural Order *Leguminosæ*; and on *Embelia* and *ardisia*, both Natural Order *Myrsinæ*.

63. JAMIDES SIRAHA, Kheil.

*Plebeius siraha*, Kheil, Rhop. Nias., p. 30, n. 91, pl. v, fig. 35, male (1884); *J. bachus*, var., Distant, Rhop. Malay., p. 222, n. 1, pl. xxi, figs. 19, male; 16, female (1884).

The larva of this butterfly has never been found, but the allied *J. bachus*, Cramer, in South India feeds on *Butea*, *Pongamia* and *Xylia*, all of the Natural Order *Leguminosæ*.

64\*. LAMPIDES CELENO, Cramer.

*Papilio celeno*, Cramer, Pap. Ex., vol. i, p. 51, pl. xxxi, figs. C, D, male (1775); *Hesperia ælianus*, Fabricius, Ent. Syst., vol. iii, pt. 1, p. 280, n. 79 (1793); *Lampides ælianus* [sic], Walker, Trans. Ent. Soc. Lond., 1895, p. 461, n. 64.

In Java the larva feeds on *Butea*, Natural Order *Leguminosæ*; in Calcutta on *Heynea*, Natural Order *Meliaceæ*; and on *Pongamia*, Natural Order *Leguminosæ*; in South India on *Abrus*, *Pongamia* and *Saraca*, all Natural Order *Leguminosæ*.

65. CATOCHRYSOPS STRABO, Fabricius.

*Hesperia strabo*, Fabricius, Ent. Syst., vol. iii, pt. 1, p. 287, n. 101 (1793); *Catachrysops* [sic] *strabo*, Walker, Trans. Ent. Soc. Lond., 1895, p. 462, n. 65.

The larva in Orissa feeds on *Dolichos*, Natural Order *Leguminosæ*; and in South India on *Schleichera*, Natural Order *Sapindaceæ*, and on *Ougeinia* and *Cylista*, Natural Order *Leguminosæ*.

66. CATOCHRYSOPS CNEJUS, Fabricius.

*Hesperia cnejus*, Fabricius, Ent. Syst., Suppl., p. 430, n. 100-101 (1798).

Dr. A. G. Butler in "The Entomologist," vol. xxxiii, p. 1 (1900), places *cnejus* in *Enchrysops*, which has the eyes smooth, and *strabo* in *Catochrysops*, as it has the eyes hairy. The larva in Calcutta feeds on *Phaseolus*, in Orissa on *Dolichos*, and in South India on *Ougeinia* and *Cylista*—all Natural Order *Leguminosæ*.

67. POLYOMMATUS BÆTICUS, Linnæus.

*Papilio bæticus*, Linnæus, Syst. Nat. Ins., ed. xii, vol. i, pt. 2, p. 789, n. 226 (1767); *Lycæna bætica*, Walker, Trans. Ent. Soc. Lond., 1895, p. 461, n. 62.

The larva in Calcutta feeds on *Crotalaria*; in South India on *Butea* and *Cajanus*; in Europe on *Colutea*; and in South Africa on *Crotalaria*; and in the Hawaiian Islands on *Melilotus*—all Natural Order *Leguminosæ*.

68. IRAOTA TIMOLEON, Stoll.

*Papilio timoleon*, Stoll, Suppl. Cramer, Pap. Ex., vol. v, p. 146, pl. xxxii, figs. 4, 4D, female (1790); *Deudorix (Iraota) timoleon*, Walker, Trans. Ent. Soc. Lond., 1895, p. 463, n. 72; *Hesperia mæcenus*, Fabricius, Ent. Syst., vol. iii, pt. 1, p. 271, n. 45 (1793); *Thecla mæcenus*, Westwood, Donovan's Ins. China, new edition, p. 70, pl. xxxix, fig. 2, male (1842); *Deudorix (Iraota) mæcenus*, Walker, Trans. Ent. Soc. Lond., 1895, p. 463, n. 73.

The larva in South India feeds on three species of *Ficus*, Natural Order *Urticacæ*; in Ceylon it feeds on the same plants.

69. CURETIS ACUTA, Moore.

*Curetis acuta*, Moore, Ann. and Mag. of Nat. Hist., fourth series, vol. xx, p. 50 (1877); Walker, Trans. Ent. Soc. Lond., 1895, p. 459, n. 56.

The larva of this butterfly has never been found, but closely-allied species in Calcutta feed on *Heynea*, Natural Order *Meliacæ*, on *Pongamia* and *Derris*, Natural Order *Leguminosæ*; and in South India on *Abrus*, *Pongamia*, *Derris*, *Wagatea* and *Xylia*—all Natural Order *Leguminosæ*.

70. ILERDA PHÆNICOPARYPHUS, Holland.

*Ilerda phænicoparyphus*, Holland, Trans. Amer. Ent. Soc., vol. xiv, p. 120, n. 52, pl. ii, fig. 1, male (1877).

This butterfly has never been bred.

71. CAMENA DEVA, Moore.

*Amblypodia deva*, Moore, Horsfield and Moore, Cat. Lep. Mus. E. I. C., vol. i, p. 46, n. 74 (1857).

The larva in India feeds on *Loranthus* Natural Order *Loranthacæ*.

72. *APHNÆUS LOHITA*, Horsfield.

*Amblypodia lohita*, Horsfield, Cat. Lep. E. I. Co., p. 106, n. 38 (1829); *Aphnæus zebrinus*, Walker, Trans. Ent. Soc. Lond., 1895, p. 462, n. 66.

In South India the larva feeds on *Zizyphus*, Natural Order *Rhamnææ*, *Wagatea* and *Xylia*, Natural Order *Leguminosæ*, *Terminalia*, Natural Order *Combretaceæ*, *Psidium*, Natural Order *Myrtaceæ*, *Lagerstræmia*, Natural Order *Lythraceæ*, *Argyreia*, Natural Order *Convolvulaceæ* and *Dioscorea*, Natural Order *Dioscoreaceæ*; and in Ceylon in plants of the Natural Order *Convolvulaceæ*.

73\*. *TAJURIA CIPPUS*, Fabricius.

*Hesperia cippus*, Fabricius, Ent. Syst., Suppl., vol. v, p. 429, n. 43-44 (1798); *Tajuria longinus*, Walker, Trans. Ent. Soc. Lond., 1895, p. 462, n. 67.

In Java and South India the larva of this butterfly feeds on *Loranthus*, Natural Order *Loranthaceæ*.

74. *TAJURIA JANGALA*, Horsfield.

*Amblypodia jangala*, Horsfield, Cat. Lep. E. I. Co., p. 113, n. 4 (1899); *Sithon jangala*, Walker, Trans. Ent. Soc. Lond., 1895, p. 462, n. 68.

This species has never been bred.

75. *LEHERA ERYX*, Linnæus.

*Papilio eryx*, Linnæus, Mant. Plant., p. 537 (1771); *Deudorix (Lehera) eryx*, Walker, Trans. Ent. Soc. Lond., 1895, p. 462, n. 69.

In British Bhutan in North-Eastern India the larva of this butterfly has been found feeding on the fruit of the wild pomegranate (? *Randia*) Natural Order *Rubiaceæ*).

76. *DEUDORIX EPIJARBAS*, Moore.

*Dipsas epijarbas*, Moore, Horsfield and Moore, Cat. Lep. Mus. E. I. Co., vol. i, p. 32, n. 40 (1857); Walker, Trans. Ent. Soc. Lond., 1895, p. 463, n. 71.

The larva in the Western Himalayas feeds on the fruit of the pomegranate, *Punica Granatum*, Linn., Natural Order *Lythraceæ*, and on the fruit of the horse-chestnut, *Æsculus indica*, Colehr., Natural Order *Sapindaceæ*; in South India on the pods of *Connarus Ritchiei*, Hook. f., Natural Order *Connaraceæ*.

77. *RAPALA SCHISTACEA*, Moore.

*Deudorix schistacea*, Moore, Proc. Zool. Soc. Lond., 1879, p. 140.

In Calcutta the larva feeds on *Antidesma*, Natural Order *Euphor-*



*biacæ*; in the Western Himalayas on *Spiræa*, Natural Order *Rosacæ*; in South India on *Acacia*, Natural Order *Leguminosæ* and *Quisqualis*, Natural Order *Combretacæ*.

### 78\*. RAPALA VARUNA, Horsfield.

*Thecla varuna*, Horsfield, Cat. Lep. Mus. E. I. Co., p. 91, n. 24 (1829); *Deudorix orseis*, Hewitson, Ill. Diurn. Lep., p. 23, n. 20 (1863); *Deudorix (Rapala) orseis*, Walker, Trans. Ent. Soc. Lond., 1895, p. 463, n. 70.

The larva in South India feeds on *Zizyphus*, Natural Order *Rhamnæ*, *Xylia*, Natural Order *Leguminosæ* and *Quisqualis*, Natural Order *Combretacæ*.

## Family PAPILIONIDÆ.

### Subfamily PIERINÆ.

#### 79. DELIAS HIERTE, Hübner.

*Delias hierte*, Hübner, Zutr. Ex. Schmett., figs. 77, 78, *male* (1818); Mitis, Iris, vol. vi, p. 107, n. 38 (1893); Walker, Trans. Ent. Soc. Lond., 1895, p. 464, n. 75.

This species has never been bred, but the larva will almost certainly be found on *Loranthus*, Natural Order *Loranthacæ*.

#### 80. DELIAS AGLAIA, Linnæus.

*Papilio aglaia*, Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 465, n. 44 (1758); *Delias aglaia*, Butler, Ann. and Mag. of Nat. Hist., sixth series, vol. xx, p. 162, n. 78 (1897); *Papilio pasithoë*, Linnæus, Syst. Nat. Ins., ed. xii, vol. i, pt. 2, p. 755, n. 53 (1767); *Pieris pasithoë*, Westwood, Donovan's Ins. China, new edition. p. 59, pl. xxx, figs. 2, 2a, *male* (1842); *Delias pasithoë*, Walker, Trans. Ent. Soc. Lond., 1895, p. 463, n. 74; *Papilio dione*, Drury, Ill. Ex. Ins., vol. ii, pl. viii, figs. 3, 4, *male* (1773); *Papilio porsenna*, Cramer, Pap. Ex., vol. i, p. 68, pl. xliii, figs. D, E, *male* (1775).

Larva probably feeds on *Loranthus*.

#### 81. CATOPSILIA CROCALE, Cramer.

*Papilio crocale*, Cramer, Pap. Ex., vol. i, p. 87, pl. lv, figs. C, D, *female* (1775); *Catopsilia crocale*, Leech. Butt. from China, Japan, and Corea, p. 424 (1893); Walker, Trans. Ent. Soc. Lond., 1895, p. 464, n. 79; *Papilio catilla*, Cramer, Pap. Ex., vol. iii, p. 63, pl. ccxix, figs. D, E, *female* (1779); *Catopsilia catilla*, Walker, Trans. Ent. Soc. Lond., 1895, p. 464, n. 78.\*

The larva in India feeds on various species of *Cami*, Natural Order *Leguminosæ*.

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\* Mr. James J. Walker keeps these two species distinct, and has reversed the references to them; moreover one of his dates is incorrect.

82. CATOPSILIA PYRANTHE, Linnæus.

*Papilio pyranthe*, Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 469, n. 66 (1758); *Colias phyranthe*, Westwood, Donovan's Ins., China, new edition, p. 61, pl. xxxi, fig. 1, male (1842); *Papilio chryseis*, Drury, Ill. Ex. Ent., vol. i, p. 24, pl. xii, figs. 3, 4, male (1773); *Catopsilia chryseis*, Walker, Trans. Ent. Soc. Lond., 1895, p. 464, n. 77.

The larva of this butterfly in India feeds on *Cassia*, Natural Order *Leguminosæ*.

83\*. TERIAS LIBYTHEA, Fabricius.

*Papilio libythea*, Fabricius, Ent. Syst., Suppl., vol. v, p. 427, n. 598, 599 (1798); *Terias libythea*, Butler, Ann. and Mag. of Nat. Hist., seventh series, vol. i, p. 58, n. 3 (1898); *Terias brigitta*, Walker (*nec* Cramer), Trans. Ent. Soc. Lond., 1895, p. 465, n. 83.

In South India the larva of this butterfly feeds on *Cassia*, Natural Order *Leguminosæ*.

84\*. TERIAS SUBFERVENS, Butler.

*Terias subfervens*, Butler, Ann. and Mag. of Nat. Hist., fifth series, vol. xi, p. 278 (1883); seventh series, vol. i, p. 65, n. 24 (1898); *Terias læta*, Walker (*nec* Boisduval), Trans. Ent. Soc. Lond., 1895, p. 465, n. 82.

This species has been bred in Japan on *Cassia*, Natural Order *Leguminosæ*.

85. TERIAS HECABE, Linnæus.

*Papilio hecabe*, Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 470, n. 74 (1758); *Terias hecabe*, Walker, Trans. Ent. Soc. Lond., 1895, p. 464, n. 80; Butler, Ann. and Mag. of Nat., Hist., seventh series, vol. i, p. 69, n. 36 (1898); *Terias anemone*, Felder, Wien. Ent. Monatsb., vol. vi, p. 23, n. 7 (1862); Butler, Ann. and Mag. of Nat. Hist., seventh series, vol. i, p. 69, n. 36 (1898); *Terias mandarina*, de l'Orza, Cat. Lép. Jap., p. 18, n. 23 (1869); Walker, Trans. Ent. Soc. Lond., 1895, p. 465, n. 81.

Dr. A. G. Butler in his latest revision of the genus records both *T. anemone*, Felder, and *T. hecabe*, Linnæus, from Hongkong. Had he seen these common insects in life and noted the marvellous seasonal changes which takes place in them I do not think he would have wasted time in trying to make two distinct species out of them, each with wet-season, intergrade or intermediate, and dry-season forms. The larva in India has been recorded to feed on a great variety of plants of the Natural Order *Leguminosæ*, such as *Sesbania*, *Æschynomene*, *Cassia* and *Albizzia*.

86. DERCAS VERHUELLI, van der Hoeven.

*Colias verhuelli*, van der Hoeven, Tijdsch. voor Nat. Gesch. en Phys., vol. v,

p. 341, n. 3, pl. vii, figs. 3a, 3b, female (1839); *Dercas verhuelli*, de Nicéville, Ann. and Mag. of Nat. Hist., seventh series, vol. ii, p. 480, n. 1 (1898).

The larva and pupa of this species are unknown.

### 87. *DERCAS SKERTCHLYI*, de Nicéville.

*Dercas skertchlyi*, de Nicéville, Ann. and Mag. of Nat. Hist., seventh series, vol. ii, p. 481, n. 2 (1898).

The transformations of this genus are quite unknown.

### 88. *IXIAS PYRENE*, Linnæus.

*Papilio pyrene*, Linnæus, Mus. Ulr., p. 241, n. 60 (1764); *Ixias pyrene*, Walker, Trans. Ent. Soc. London, 1895, p. 467, n. 89; *Pieris (Thestias) pyrene*, Westwood, Donovan's Ins., China, new edition, p. 61, pl. xxxi, fig. 2, male (1842); *Papilio enippe*, Drury, Ill. Ex. Ins., vol. i. p. 11, and Index (two places), pl. v, figs. 2, 2a, male (1770); *Ixias evippe* (sic!), Butler, Ann. and Mag. of Nat. Hist., seventh series, vol. i, p. 136, n. 11 (1898); *Papilio ænippe* (*ænippa* in one place in text), Cramer, Pap. Ex., vol. ii, p. 13, pl. cv, figs. C, D, female (1777); vol. iii, p. 63, pl. cxxxix, figs. B, C, female (1779).

The larva in India feeds on *Capparis*, Natural Order *Capparidææ*.

### 89. *HEBOMOIA GLAUCIPPE*, Linnæus.

*Papilio glaucippe*, Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 469, n. 65 (1758); Drury, Ill. Ex. Ins., vol. i, p. 20, pl. x, figs. 3, 4, male (1773); *Hebomoia glaucippe*, Walker, Trans. Ent. Soc. Lond., 1895, p. 467, n. 90; Fritze, Zool. Jahr., vol. xi, p. 259 (1898); Frühstorfer, Berl. Ent. Zeitsch., vol. xliii, p. 174 (1898); Butler, Ann. and Mag. of Nat. Hist., seventh series, vol. i, p. 290, n. 1 (1898); *Pieris (Iphias) glaucippe*, Westwood, Donovan's Ins., China, new edition, p. 60, pl. xxxi, fig. 1, male (1842).

The larva of the allied *H. australis*, Butler, in South India feeds on *Cratæva* and *Capparis*, both of the Natural Order *Capparidææ*.

### 90\*. *PRIONERIS CLEMANTHE*, Doubleday.

*Pieris clemathe*, Doubleday, Ann. and Mag. of Nat. Hist., first series, vol. xvii, p. 23 (1846); *Prioneris clemathe*, Walker, Trans. Ent. Soc. Lond., 1895, p. 464, n. 76.

The larvæ of allied species of this genus in India feed on *Capparis*. Natural Order *Capparidææ*.

### 91\*. *APPIAS ALBINA*, Boisduval.

*Pieris albina*, Boisduval, Sp. Gen., vol. i, p. 480, n. 62 (1836); *Tachyris (appias) albina*, Walker, Trans. Ent. Soc. Lond., 1895, p. 467, n. 88.

The larva in South India feeds on *Hemicyclia*. Natural Order *Euphorbiacææ*.

92. HUPHINA NERISSA, Fabricius.

*Papilio nerissa*, Fabricius, Syst. Ent., p. 471, n. 123 (1775); *Pieris* (*Huphina*) *nerissa*, Walker, Trans. Ent. Soc. Lond., 1895, p. 466, n. 85; *Huphina nerissa*, Butler, Ann. and Mag. of Nat. Hist., seventh series, vol. iii, p. 212, n. 53 (1899); *Papilio amasone*, Cramer, Pap. Ex., vol. 1, p. 68, pl. xlv, fig. A, male (1775); *Papilio coronis*, Cramer, Pap. Ex., vol. 1, p. 69, pl. xlv, figs. B, C, female (1775); *Huphina pallida*, Swinhoe, Proc. Zool. Soc. Lond., 1885, p. 137, n. 103; *Pieris* (*Huphina*) *pallida*, Walker, Trans. Ent. Soc. Lond., 1895, p. 466, n. 86.

The larva in India feeds on *Capparis*, Natural Order *Capparidæ*.

93\*. HUPHINA ASPASIA, Stoll.

*Papilio aspasia*, Stoll, Suppl. Cramer, Pap. Ex., p. 148, pl. xxxiii, figs. 3, 3c, male (1790); *Pieris* (*Huphina*) *aspasia*, Walker, Trans. Ent. Soc. Lond., 1895, p. 466, n. 87; *Huphina olga*, Butler, Ann. and Mag. of Nat. Hist., seventh series, vol. iii, p. 210, n. 43 (1899).

Mr. James J. Walker records a single specimen from Hongkong in the collection of the British Museum. True *H. aspasia*, Stoll, appears to be confined to the Moluccas, but the variety or local race, *Pontia olga*, Eschscholtz, is extremely common in the Philippines, and a specimen may easily have been blown over to Hongkong from thence in a typhoon. It has apparently not been bred, but like all *Huphinas* the larva probably feeds on capers, Natural Order *Capparidæ*.

94. PIERIS CANIDIA, Sparrman.

*Papilio canidia*, Sparrman, Amœn. Acad., vol. vii, p. 504, note m (1768); *Pieris canidia*, Leech, Butt. from China, Japan, and Corea, p. 456 (1893); *Pieris* (*Ganoris*) *canidia*, Walker, Trans. Ent. Soc. Lond., 1895, p. 465, n. 84.

The larva of this butterfly, which is by far the commonest species in Hongkong, feeds on various species of *Brassica*, Natural Order *Cruciferae*.

Subfamily PAPILIONINÆ.

95. PAPILIO ARISTOLOCHIÆ, Fabricius.

*Papilio aristolochiæ*, Fabricius, Syst. Ent., p. 443, n. 3 (1775); Rothschild, Nov. Zool., vol. ii, p. 245, n. 39 (1895); Walker, Trans. Ent. Soc. Lond., 1895, p. 468, n. 91.

The larva in India feeds on *Aristolochia*, Natural Order *Aristolochiaceæ*.

96\*. PAPILIO XUTHUS, Linnæus.

*Papilio xuthus*, Linnæus, Syst. Nat. Ins., ed. xii, vol. i, pt. 2, p. 751, n. 34 (1767); Walker, Trans. Ent. Soc. Lond., 1895, p. 472, n. 104; Rothschild, Nov. Zool., vol. ii, p. 503 (1895); *Papilio xanthus*, Rothschild, Nov. Zool., vol. ii, p. 278, n. 66 (1895).



In China and Japan the larva of this butterfly has been recorded to feed on *Zanthoxylum* and *Ægle*, Natural Order *Rutaceæ*, and on *Phellodendron*.

#### 97. *PAPILIO DEMOLEUS*, Linnæus.

*Papilio demoleus*, Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 464, n. 35 (1758); Westwood, Donovan's Ins., China, new edition, p. 57, pl. xxviii, fig. 2, *female* (1842); Rothschild, Nov. Zool., vol. ii, p. 279, n. 67 (1895); *Papilio erithonius* Cramer, Pap. Ex., vol. iii, p. 67, pl. ccxxxii, figs. A, B, *male* (1782); Walker, Trans. Ent. Soc. Lond., 1895, p. 470, n. 98; *Papilio epius*, Westwood, Donovan's Ins., China, new edition, p. 56, pl. xxviii, fig. 1, *male* (1842).

The larva in India feeds on *Ruta*, *Glycosmis*, *Murraya*, *Citrus* and *Ægle*, all Natural Order *Rutaceæ*, *Psoralea*, Natural Order *Leguminosæ*, while the local race *P. demoleus sthenelus*, MacLeay, is said to feed on *Salvia*, Natural Order *Labiataæ*, New Guinea.

#### 98. *PAPILIO HELENUS*, Linnæus.

*Papilio helenus*, Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 459, n. 4 (1758); Elwes, Proc. Zool. Soc. Lond., 1881, p. 873; Rothschild, Nov. Zool., vol. ii, p. 284, n. 72 (1895); Walker, Trans. Ent. Soc. Lond., 1895, pl. 469, n. 96.

The larva in India feeds on *Zanthoxylum*, *Glycasmis* and *Citrus*, Natural Order *Rutaceæ*.

#### 99. *PAPILIO MEMNON AGENOR*, Linnæus.

*Papilio agenor*, Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 460, n. 13 (1758); Westwood, Donovan's Ins., China, new edition, p. 53, pl. xxiv, fig. 2, *female, second form* (1842); Walker, Trans. Ent. Soc. Lond., 1895, n. 469, n. 94; *Papilio memnon agenor*, Rothschild, Nov. Zool., vol. ii, p. 316 (d) (1895); *Papilio memnon*, Leech, Butt. from China, Japan and Corea, p. 544 (1893).

The larva of this butterfly does not appear to have been found in India, but it almost certainly feeds on plants of the arangeaceous group, Natural Order *Rutaceæ*. True *P. memnon*, Linnæus, in Sumatra feeds on *Citrus*.

#### 100. *PAPILIO PROTENOR*, Cramer.

*Papilio protenor*, Cramer, Pap. Ex., vol. i, p. 77, pl. xlix, figs. A, B, *male* (1775); Westwood, Donovan's Ins., China, new edition, p. 56, pl. xxvii, *female* (1842); Elwes, Proc. Zool. Soc. Lond., 1881, p. 872, Leech, Butt. from China, Japan and Corea, p. 546 (1893); Rothschild, Nov. Zool., vol. ii, p. 331, n. 108 (1895); Walker, Trans. Ent. Soc. Lond., 1895, p. 469, n. 95.

The larva of this butterfly in the Western Himalayas feeds on *Zanthoxylum*, Natural Order *Rutaceæ*.

101. *PAPILIO POLYTES BOREALIS*, Felder.

*Papilio polytes*, var. *borealis*, Felder, Wien. Ent. Monatsb., vol. vi, p. 22, n. 2 (1861); *P. polytes borealis*, Rothschild, Nov. Zool., vol. ii, p. 348 (b) (1895); *Papilio polytes*, Walker, Trans. Ent. Soc. Lond., 1895, p. 469, n. 97.

Mr. James J. Walker records the larva of this species in Hongkong feeding on orange, lime, and pumilo (*Citrus*, Natural Order *Rutaceæ*).

102. *PAPILIO CLYTIA PANOPE*, Linnæus.

*Papilio panope*, Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 479, n. 131 (1758); *Papilio saturata*, Moore, Proc. Zool. Soc. Lond., 1878, p. 697; *Papilio clytia panope*, Linnæus, (g<sup>2</sup>): ab. loc. *saturatus*, Rothschild, Nov. Zool., vol. ii, p. 369 (1895); *Papilio clytia*, Walker, Trans. Ent. Soc. Lond., 1895, p. 470, n. 99.

In Hongkong the larva has been found on *Morinda umbellata*, Natural Order *Rubiaceæ*; in South India a local race of this species feeds in the larval state on *Cinnamomum*, *Alseodaphne* and *Litsæa*, Natural Order *Laurineæ*; in the Western Himalayas on *Litsæa*; in Calcutta on *Antiaris*, Natural Order *Urticaceæ*; and in Bombay on *Tetranthera*, Natural Order *Laurineæ*; the latter genus being apparently a synonym of *Litsæa*.

103. *PAPILIO BIANOR*, Cramer.

*Papilio bianor*, Cramer, Pap. Ex., vol. ii, p. 10, pl. ciii, fig. c (1777); Rothschild, Nov. Zool., vol. ii, p. 378, n. 142 (1895); Walker, Trans. Ent. Soc. Lond., 1895, p. 468, n. 93.

The food-plant of the larva of this butterfly does not appear to have been recorded.

104. *PAPILIO PARIS*, Linnæus.

*Papilio paris*, Linnæus Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 459, n. 3 (1758); Westwood, Donovan's Ins., China, new edition, p. 51, pl. xxii, figs. 1, 2, *female* (1842); Walker, Trans. Ent. Soc. Lond., 1895, p. 468, n. 92.

The food-plant of the larva of this common butterfly is apparently unknown.

105. *PAPILIO ANTIPHATES*, Cramer.

*Papilio antiphates*, Cramer, Pap. Ex., vol. i, p. 113, pl. lxxii, figs. A, B, *male* (1775); Rothschild, Nov. Zool., vol. ii, p. 410, n. 170 (1895); Walker, Trans. Ent. Soc. Lond., 1895, p. 471, n. 100.

I cannot find that the food-plant of this species has been recorded, though Mynheer Piepers has described the transformations of the local race *Alcibiades*, Fabricius, in Java.

106. *PAPILIO EURYPYLUS AXION*, Felder.

*Papilio axion*, Felder, Verh. zool.-bot. Gesellsch. Wien, vol. xiv, p. 395, n. 224, p. 350, n. 128 (1864); *Papilio eurypylus axion*, Rothschild, Nov. Zool., vol. ii, p. 433 (h) (1895); *Papilio eurypilus* [sic!], Walker, Trans. Ent. Soc. Lond., 1895, p. 471, n. 102.

The larva at Balasore near Calcutta has been recorded to feed on *Michelia*, Natural Order *Magnoliaceæ*, and *Uvaria*, Natural Order *Anonaceæ*. In Calcutta I have bred it on *Michelia*, Natural Order *Magnoliaceæ*, and on *Polyalthia*, Natural Order *Magnoliaceæ*; while the local race *yasan*, Esper, feeds on *Unona* and *Succopetalum*, Natural Order *anonaceæ* in Southern India.

107. *PAPILIO SARPEDON SEMIFASCIATUS*, Honrath.

*Papilio sarpedon*, var. *semifasciatus*, Honrath, Ent. Nach., vol. xiv, p. 161 (1888); *Papilio sarpedon semifasciatus*, Rothschild, Nov. Zool., vol. ii, p. 442 (b) (1895); *Papilio sarpedon*, Walker, Trans. Ent. Soc. Lond., 1895, p. 471, n. 101.

The larva of different local races of *P. sarpedon* feed in Japan on *Machilus*, Natural Order *Laurineæ*; in the Western Himalayas on the same plant; and in South India on *Cinnamomum*, *Alseodaphne* and *Litsæa*, all of the same Natural Order.

108. *PAPILIO AGAMEMNON*, Linnæus.

*Papilio agamemnon*, Linnæus, Syst. Nat. Ins., ed. x, vol. i, pt. 2, p. 462, n. 21 (1758); Westwood, Donovan's Ins., China, new edition, p. 55, pl. xxvi, fig. 2, female (1842); Rothschild, Nov. Zool., vol. ii, p. 447, n. 198 (1895); Walker, Trans. Ent. Soc. Lond., 1895, p. 471, n. 101.

The larva of this butterfly in Java and Celebes has been found on *Anona*, Natural Order *Anonaceæ*; in the Philippine Isles on *Arctacarpus*, *Unona*, and *Michelia*; in Sumatra on *Anona* and *Michelia*; and in India on *Unona*, *Polyalthia*, *Anona*, and *Saccopetalum*—all Natural Order *Anonaceæ*.

109. *LEPTOCIRCUS CURIUS*, Fabricius.

*Papilio curius*, Fabricius, Mant. Ins., vol. ii, p. 9, n. 71 (1787); *Leptocircus curius*, Walker, Trans. Ent. Soc. Lond., 1895, p. 472, n. 105.

In October, 1892, on the Daunat Range, Central Tenasserin, Burma, I observed a female of the allied *Leptocircus mages*, Zinken-Sammer, ovipositing on the underside of the leaves of a creeper with compound leaves, each leaf consisting of three leaflets, the *Illigera burmannica* of King, Natural Order *Combretaceæ*. The egg is spherical, smooth, pale green, almost transparent, and of the usual papilionid form. Unfortunately I was not able to breed the larva.

Family HESPERIIDÆ.

110. TAGIADES ATTICUS, Fabricius.

*Hesperia atticus*, Fabricius, Ent. Syst., vol. iii, pt. 1, p. 339, n. 288 (1793);  
*Tagiades atticus*, Walker, Trans. Ent. Soc. Lond., 1895, p. 475, n. 119.

In Southern India the larva of this butterfly feeds on *Dioscorea*,  
Natural Order *Dioscoreaceæ*, and *Smilax*, Natural Order *Liliaceæ*.

111. ODONTOPTILUM ANGULATA, Felder.

*Pherygospidea angulata*, Felder, Verh. zool.-bot. Gesellsch. Wien, vol. xii, p. 488,  
n. 149 (1862); *Achlyodes Sura*, Moore, Proc. Zool. Soc. Lond., 1865, p. 786; *Antigonus sura*, Walker, Trans. Ent. Soc. Lond., 1895, p. 475, n. 120.

The larva in South India feeds on *Allophylus Cobbe*, Blunæ, Natural  
Order *Sapindaceæ*.

112. CAPRONA ALIDA, de Nicéville.

*Caprona alida*, de Nicéville, Journ. Bomb. Nat. Hist. Soc., vol. vi, p. 394, n. 37,  
pl. G, fig. 40, male (1891).

The transformations of this butterfly are unknown.

113. CAPRONA ELWESII, Watson.

*Caprona elwesii*, Watson, Journ. Bomb. Nat. Hist. Soc., vol. x, p. 674 (1897);  
*Caprona syrichthus*, var., Elwes, Proc. Zool. Soc. Lond., 1892, p. 656, pl. xliii, fig. 2.

The transformations of this butterfly are unknown.

114. ASTICTOPTERUS OLIVASCENS, Moore.

*Astictopterus olivascens*, Moore, Proc. Zool. Soc. Lond., 1878, p. 692; *Astictopterus*  
[sic!] *olivascens*, Walker, Trans. Ent. Soc. Lond., 1895, p. 476, n. 124; *Cyclopides*  
*chinensis*, Leech, The Entomologist, vol. xxiii, p. 48 (1890); *Steropes nubilus*,  
Mabille, Bull. Soc. Ent. Belg., vol. xxxv, p. lxiv (1891); Leech, Butt. from China  
Japan and Corea, p. 630 (1893).

This obscure skipper has never been bred.

115. SUASTUS GREMIUS, Fabricius.

*Hesperia gremius*, Fabricius, Ent. Syst., a Suppl., vol. v, p. 433, n. 282-283 (1798);  
*Suastus gremius*, Walker, Trans. Ent. Soc. Lond., 1895, p. 474, n. 115.

The larva in India feeds on the leaves of palms, *Areca*, *Caryota*,  
*Phoenix*, *Culamus*, and *Cocos*, Natural Order *Palmææ*.

116. IAMBRIX STELLIFER, Butler.

*Astictopterus stellifer*, Butler, Trans. Linn. Soc. Lond., Zoology, second series,



vol. i, p. 555, n. 7 (1877); *Asticopterus* [*sic*!] (*Iambryx* *sic*!) *salsala*, Walker, Trans. Ent. Soc. Lond., 1895, p. 476, n. 125.

This butterfly has never been bred, but the closely-allied *I. salsala*, Moore, in India feeds on bamboos and grasses, Natural Order *Gramineæ*.

#### 117. TARACTROCERA ATROPUNCTATA, Watson.

*Taractrocera atropunctata*, Watson, Journ. Bomb. Nat. Hist. Soc., vol. x, p. 676, n. 275, pl. A, fig. 9, *male* (1897).

Transformations unknown.

#### 118. HYAROTIS ADRASTUS, Cramer.

*Papilio adrastus*, Cramer, Pap. Ex., vol. iv, p. 62, pl. cccxix, figs. F, G, *male* (1780); *Hyatotis adrastus*, Walker, Trans. Ent. Soc. Lond., 1895, p. 476, n. 122.

The larva in Sumatra feeds on *Calamus*, and in India on *Phoenix* and *Calamus*, Natural Order *Palmæ*, and doubtless on other palms.

#### 119. MATAPA ARIA, Moore.

*Hesperia aria*, Moore, Horsfield and Moore, Cat. Lep. Mus. E. I. C., vol. i, p. 254, n. 587 (1857); *Matapa aria*, Walker, Trans. Ent. Soc. Lond., 1895, p. 473, n. 108.

The larva in India feeds on the leaves of bamboos, *Bambusa*, *Dendrocalamus* and *Ochlandra*, Natural Order *Gramineæ*.

#### 120\*. ERIONOTA THRAX, Linnæus.

*Papilio thrax*, Linnæus, Syst. Nat. Ins., ed. xii, vol. i, pt. 2, p. 794, n. 264, (1767); *Erionota thrax*, Walker, Trans. Ent. Soc. Lond., 1895, p. 476, n. 121.

Mr. James J. Walker records the breeding of this large skipper at Hongkong on banana leaves. In India also the larva feeds on species of *Musa*, Natural Order *Scitamineæ*.

#### 121. NOTOCRYPTA FEISTHAMELLII, Boisduval.

*Thyme le feisthamelii*, Boisduval, Voy l'astrolahe, Lep., p. 159, pl. iii, fig. 6 (1832); *Plesioneura alysos*, Moore, Proc. Zool. Soc. Lond., 1865, p. 789; *Notocrypta alysos*, Walker, Trans. Ent. Soc. Lond., 1895, p. 473, n. 109.

In the Western Himalayas the larva of this butterfly feeds on *Hedychium*, Natural Order *Scitamineæ*; in South India it feeds on *Curcuma*, *Hedychium*, and *Amomum*, all Natural Order *Scitamineæ*.

#### 122. UDASPES FOLUS, Cramer.

*Papilio folus*, Cramer, Pap. Ex., vol. i, p. 118, pl. lxxiv, fig. F, *female* (1775); *Udaspes folus*, Walker, Trans. Ent. Soc. Lond., 1895, p. 476, n. 123.

The larva of this species in India feeds on *Curcuma*, *Kæmpferia*, *Hedychium*, and *Amomum*—all Natural Order *Scitamineæ*.

123. TELICOTA BAMBUSÆ, Moore.

*Pamphila bambusæ*, Moore, Proc. Zool. Soc. Lond., 1878, p. 691, pl. xlv, fig. 11, male; 12, female; *Telicota bambusæ*, Walker, Trans. Ent. Soc. Lond., 1895, p. 475, n. 116.

The larva in India feeds on the leaves of bamboos, *Bambusa* and *Oxytenanthera*, Natural Order *Gramineæ*.

124. TELICOTA AUGIAS, Linnæus.

*Papilio augias*, Linnæus, Syst. Nat. Ins., ed. xii, vol. i, pt. 2, p. 794, n. 257 (1767); *Telicota augias*, Elwes and Edwards, Trans. Zool. Soc. Lond., vol. xiv, p. 251 (1897).

This species does not appear to have been bred. Messrs Elwes and Edwards record it from Hongkong, but it is very difficult to say from examining the markings only whether any particular specimen of this group of the genus from Hongkong is *T. bambusæ* or *T. augias*; in markings the specimens seem to be intermediate. Those gentlemen apparently make out differences between the two species in the form of the clasp in the males, which from the figures given by them (l. c., pl. xxv, figs. 62, 62a, *augias*, and 63, *bambusæ*) seem to be sufficient to distinguish the males.

125. PADRAONA DARA, Kollar.

*Hesperia dara*, Kollar, Hugel's Kaschmir, vol. iv, pt. 2, p. 455, n. 4 (1844); *Telicota dara*, Elwes and Edwards, Trans. Zool. Soc. Lond., vol. xiv, p. 255 (1897); *Telicota mæsooides*, Walker, Trans. Ent. Soc. Lond., 1895, p. 475, n. 117.

The larva in South India feeds on *Bambusa*, *Oxytenanthera*, and *Ochlandra*, Natural Order *Gramineæ*.

126. HALPE CEYLONICA, Moore.

*Halpe ceylonica*, Moore, Proc. Zool. Soc. Lond., 1878, p. 690, pl. xlv, fig. 9, male; *Halpe moorei*, Watson, Proc. Zool. Soc. Lond., 1893, p. 109; Walker, Trans. Ent. Soc. Lond., 1895, p. 475, n. 118.

In South India the larva feeds on *Bambusa* and *Oxytenanthera*, Natural Order *Gramineæ*.

127. BAORIS OCEIA, Hewitson.

*Hesperia oceia*, Hewitson, Desc. Hesperidæ, p. 31, n. 22 (1868); *Baoris oceia*, Walker, Trans. Ent. Soc. Lond., 1895, p. 473, n. 110.

The larva in South India feeds on *Bambusa*, *Dendrocalamus*, and *Ochlandra*, Natural Order *Gramineæ*.

128. *CHAPRA MATHIAS*, Fabricius.

*Hesperia mathias*, Fabricius, Ent. Syst., Suppl., p. 433, n. 289-290 (1798); *Chapra mathias*, Walker, Trans. Ent. Soc. Lond., 1895, p. 474, n. 113.

The larva in India feeds on rice *Oryza sativa*, Linn., and on grasses, Natural Order *Gramineæ*.

129. *PARNARA CONJUNCTA*, Herrich-Schäffer.

*Goniloba conjuncta*, Herrich-Schäffer, Prodr. Syst. Lep., vol. iii, p. 75, n. 44 (1869); *Hesperia narosa*, Moore, Proc. Zool. Soc. Lond., 1878, p. 687, pl. xlv, fig. 4, male; *Baoris narosa*, Walker, Trans. Ent. Soc. Lond., 1895, p. 474, n. 111.

The larva in South India has been bred on Indian Corn or Maize, *Zea Mays*, Linn., and on coarse broad-leaved grasses, Natural Order *Gramineæ*.

130. *PARNARA ASSAMENSIS*, de Nicéville.

*Parnara assamensis*, de Nicéville, Journ. A. S. B., vol. li, pt. 2, p. 65, n. 202 (1882); Wood-Mason and de Nicéville, Journ. A. S. B., vol. lv, pt. 2, p. 382, n. 215, pl. xviii, figs. 5, 5a, male; pl. xvii, figs. 7, 7a, female (1886); *Baoris assamensis*, Walker, Trans. Ent. Soc. Lond., 1895, p. 474, n. 112.

This species has never been bred.

131. *PARNARA GUTTATUS*, Bremer and Grey.

*Endamus guttatus*, Bremer and Grey, Schmett. N. China's, p. 10, n. 43 (1853); *Parnara guttatus*, Walker, Trans. Ent. Soc. Lond., 1895, p. 474, n. 114.

The larva in India feeds on grasses and rice, *Oryza*, Natural Order *Gramineæ*.

132. *PARNARA CONTIGUA*, Mabille.

*Pamphila contigua*, Mabille, Bull. Soc. Zool., France, vol. ii, p. 232, male (1877); Elwes and Edwards, Trans. Zool. Soc. Lond., vol. xiv, p. 282 (1897).

This butterfly has never been bred.

133. *PARNARA PELLUCIDA*, Murray.

*Pamphila pellucida*, Murray, Ent. Month. Mag., vol. xi, p. 172 (1875).

Has never been bred to my knowledge.

134. *PARNARA COLACA*, Moore.

*Hesperia colaca*, Moore, Proc. Zool. Soc. Lond., 1877, p. 594, pl. lvii, fig. 7, male.

In South India the larva of this butterfly feeds on soft, small grasses, Natural Order *Gramineæ*.

135. PARNARA BEVANI, Moore.

*Hesperia bevani*, Moore, Proc. Zool. Soc. Lond., 1878, p. 688.

The larva in South India feeds on rice, *Oryza*, Natural Order Gramineæ.

136\*. ISMENE ATAPHUS, Watson.

*Ismene ataphus*, Watson, Proc. Zool. Soc. Lond., 1893, p. 126; Walker, Trans. Ent. Soc. Lond., 1895, p. 473, n. 106.

The larva in Ceylon and the Western Himālayas feeds on *Hiptage*, Natural Order Malpighiaceæ.

137\*. HASORA VITTA, Butler.

*Hesperia vitta*, Butler, Trans. Ent. Soc. Lond., 1870, p. 498, Lep. Ex., p. 167, n. 3, pl. lix, fig. 9 (1874); *Hasara vitta*, Walker, Trans. Ent. Soc. Lond., 1895, p. 473, n. 107.

Originally described from Sarawak in Borneo. The sex of the type specimen is not stated by the describer. It has never been bred.

138. PARATA ALEXIS, Fabricius.

*Papilio alexis*, Fabricius, Syst. Ent., p. 533, n. 387 (1775); *Papilio cramus*, Cramer, Pap. Ex., vol. iii, p. 163, pl. cclxxxiv, fig. E, male (1780).

This is probably the species Mr. J. J. Walker records from Hongkong as *Hasora vitta*, Butler. The larva in Calcutta feeds on *Pangamia*, Natural Order Leguminosæ, and on *Heynea*, Natural Order Meliaceæ; in South India it feeds on the first-named plant.

139. RHOPALOCAMPTA BENJAMINII, Guérin.

*Thymeles benjaminii*, Guérin, Delessert's Souv. voy. dans l'Inde, vol. ii, p. 79, pl. xxii, fig. 2.

The larva in Sikhim in the Eastern Himālayas feeds on *Sabia* Natural Order Sabiaceæ; and in the Western Himālayas on the same plant.

140\*. CYCLOPIDES ETURA, Mabille.

*Cyclopides etura*, Mabille, Soc. Ent. Belg., vol. xxxv, p. lxxv (1891).

Described from a female from Hongkong. I have not been able to identify it, and Messrs. Elwes and Edwards omit it from their Revision of the Oriental *Hesperiidæ* in Trans. Zool. Soc. Lond., vol. xiv, pp. 101-324 (1897). Its food-plant is unknown.

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